the absolute sound

THE JOURNAL OF HIGH-END AUDIO

FEBRUARY 2024

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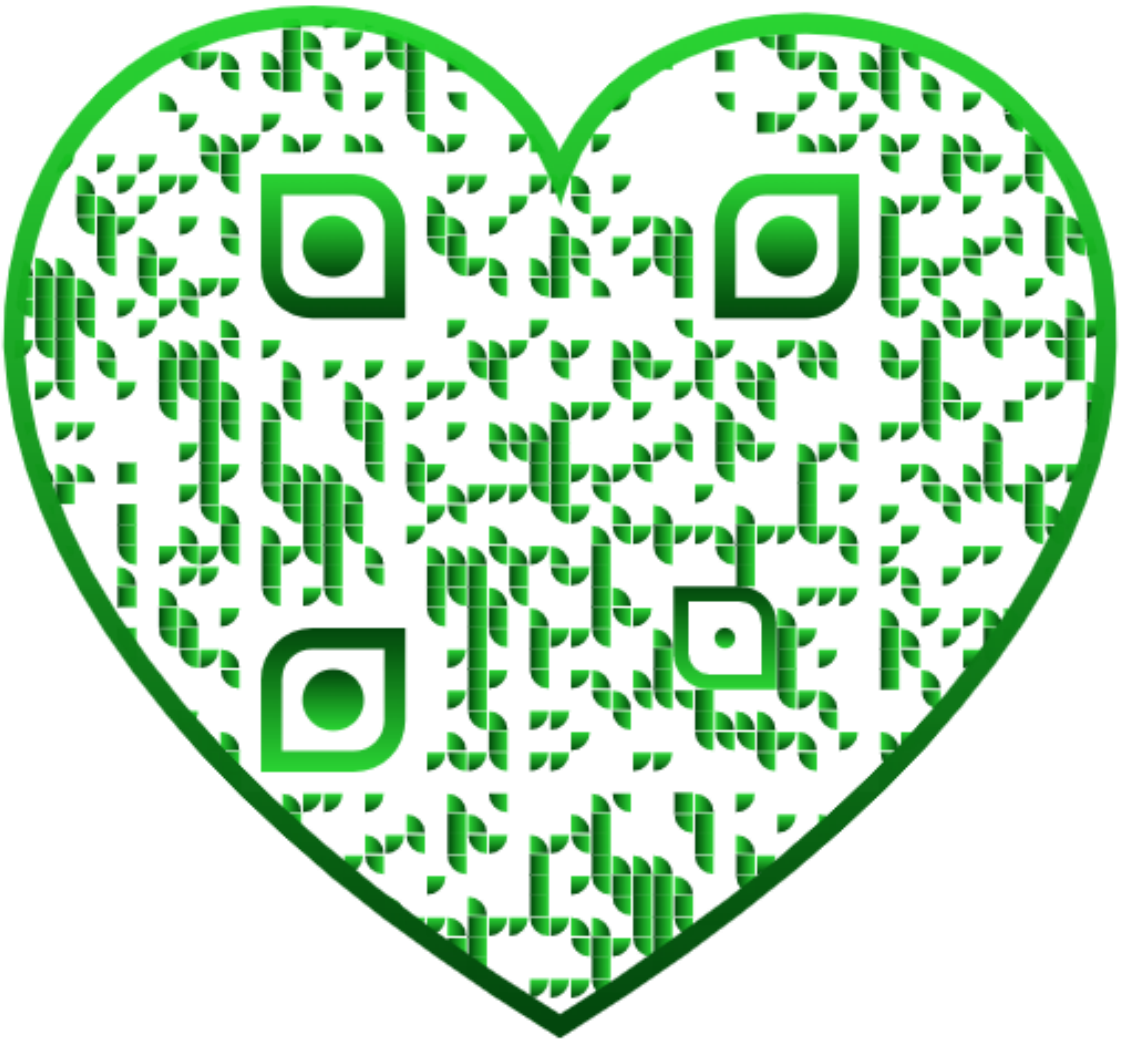

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Oswalds Mill Audio K3 Turntable

This heroic new direct-drive turntable and tonearm from OMA aims for nothing less than the state of the art in LP replay. Jacob Heilbrunn assesses the results.

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Wilson Benesch Omnium Loudspeaker and IGx Infrasonic Generator

Robert Harley considers the advanced (and unusual) new Omnium speaker and "Infrasonic Generator" from England's Wilson Benesch.

MAGICO

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The Capital Audiofest

Alan Taffel and Jacob Heilbrunn bring you the hottest new products at CAF.

"I have to admit that I'm literally blown away by these diminutive loudspeakers from Audience. It's not just the fact they image like a real, live performance, or the fact that their frequency response is so linear from 55 Hz up to 22,000 Hz (+- 3db) with usable response down to 40 Hz! Nor is it the measurable time coherence that reminds me of the fact that time and phase coherence is so fundamental to hearing the 'real thing' when playing back any great recording. The Audience V5s just sound so real! ¶ Imagine hearing the distinct harmonic differences in individual instruments and voices. What separates any saxophone, trombone, piano, etc. from others of the same description is how they reproduce harmonics - both upper and lower. No two Steinway Concert Grands sound the same. This simple truth is why we prefer one piano over another of the same model. Accurate harmonic reproduction is essential for discerning the 'truth' in musical reproduction. The harmonic blurring resulting from time and phase inconsistencies can be annoying to those having been brought up hearing live music in person. Nonetheless, this 'truth in time' is actually quite rare. However, once it has been significantly ameliorated (witness Dunlavy, Quad ESL, Magnepan, YG Acoustics, Vandersteen and a few others) this harmonic honesty is something hard to live without. This is why I've always been drawn to those few companies whose design philosophy values this quality. ¶ Enter the Audience ClairAudient 1+1 V5 into the select few that accomplish this level of harmonic truth."

Geoff Poor, "Batman"
Glenn Poor's Audio Video in Champaign, Illinois

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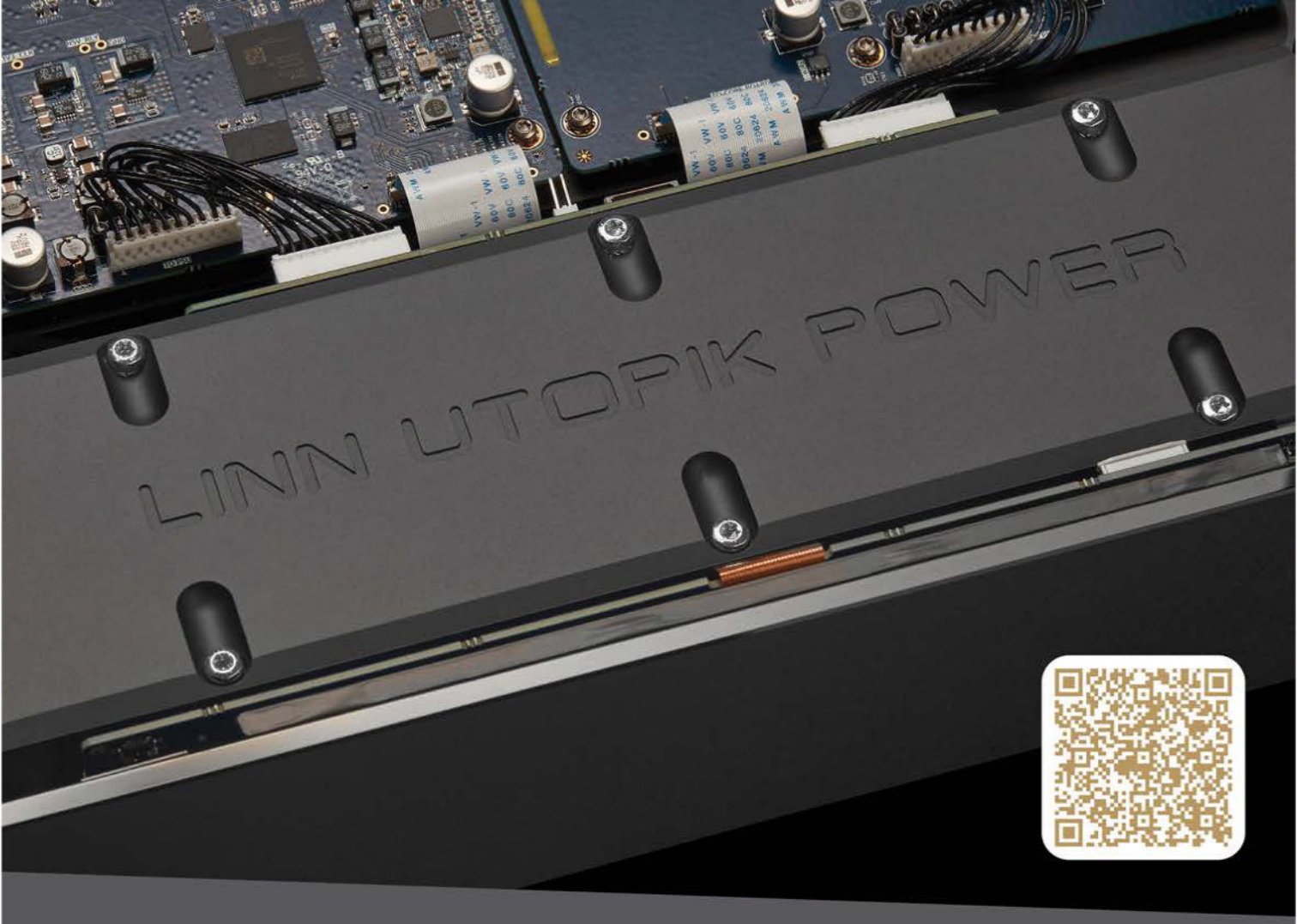

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Robert Harley,
The Absolute Sound,
December 2023

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Letters

Email the Editor: rharley@nextscreen.com **or:** TAS, 2211 Denton Dr., Ste. J, Austin, Texas 78758

Vinyl Break-In?

I have a question about vinyl playback. Some cartridge manufacturers suggest a break-in period for new styli, which may be approximately 20 hours or longer, according to the materials used in stylus manufacturing. Some styli are good for 300 hours and others up to 800+ hours of playtime.

I see that your writers use favorite albums in comparisons when evaluating products. Some writers have taken these albums to audio shows like Munich to listen to how the playback systems sound on those well-known records.

My question is, when a new vinyl album is stamped and purchased off the shelf, is there a break-in period for the vinyl, to eliminate any debris from the grooves? How long do vinyl LPs last?

Many thanks for your advice and suggestions in the past. And keep that great magazine flowing!

J-Claude Drouet

Robert Harley replies: I have not heard of vinyl needing to break-in; nor have I experienced it myself. However, cleaning a new LP with an ultrasonic cleaner is a good idea to remove any mold-release compounds.

As for how long vinyl records last, that depends greatly on how they have been handled and played. A record that has been played on a correctly set-up cartridge and has been handled with care will last a lifetime. I have records that I bought 50 years ago that still sound good. Nonetheless, I have bought replacement copies for some albums that have been played many times over the years. Tonearm/cartridge setup and good record care and handling practices are the key. Michael Fremer offers a primer on record care in a video on The Absolute Sound*'s YouTube channel called "The Fundamentals of Vinyl Record Care."*

Recognizing Alan Lomax

Your article about [Arhoolie Records founder] Chris Strachwitz was fascinating [Issue 342]. Clearly this was a man who, almost single-handedly, revived entire art forms that one could argue are particularly, perhaps completely, American. Yet, I wish Larry Kelp would have given at least a head-nod to Alan Lomax who, a generation before Strachwitz, dragged his primitive recording devices all over our country, discovering and preserving another collection of American art forms: folk songs and folk singers. Lomax found Huddie Ledbetter, known as Leadbelly, Pete Seeger, Muddy Waters, Woody Guthrie, Jelly Roll Morton, and Burl Ives, among many others. Much of Lomax's vast collection now resides at the Library of Congress. So, these two men, Strachwitz and Lomax, ought to be part of the vocabulary of anyone who loves music.

Paul Stevens

Daguerreotypes and Single-Ended Triode Amplifiers

I just reread Robert Harley's essay in the current issue ["Beyond Right and Wrong, "Issue 344]. I'm glad you tackled the perplexing issue of the same problem being solved in diametrically opposed ways. I like your answer to that question: that it all boils down to the fact that we listeners have different tastes and seek to satisfy those aspects of the listening experience that are most important to us. Hence, though there may be an "absolute sound," there is no absolute speaker, turntable, or amplifier. These all possess qualities and nuances that can please some and annoy others. So, I suppose arguing about which turntable drive system is best is like arguing about which flavor of ice cream is best.

You mention that only in audio has there been a return to primitive technology that

is 117 years out of date (single-ended triode amps). I should mention that in the world of photography there have been several revivals of "obsolete" technology in recent years. There are even practitioners of the Daguerreotype, the first viable photographic process introduced in 1839. Daguerreotypes are severely limited in scope. Each one is unique, and there is no easy way to make copies. They can only be viewed from certain angles due to the mirror surface of the image area. They have a very limited tonal range. And they are only sensitive to blue light which means that anyone with a robust reddish complexion will appear to have a dirty face. A well-known practitioner of this art is painter, Chuck Close (anatomyfilms.com/chuck-close-and-the-daguerreotype/).

Why does he or anyone else bother? Simply because the process produces a distinctive final object with a look that can't be obtained any other way. Of course, I'll grant you that Daguerreotypes are used only by highly skilled and very patient artists, whereas single-ended triode amps can be used by anybody. Still, I think it's interesting that people resort to ancient technologies for sound reasons of taste. As *Ecclesiastes* says, "There is nothing new under the sun."

Laszlo Bencze

Erratum

In our recent *Buyer's Guide*, we incorrectly listed the Icon Audio LA4 MKIII Signature in the integrated amplifier category when, in fact, the LA4 is a linestage preamplifier. TAS regrets the error.

UPCOMING IN TAS 347

The 2024 Editors' Choice Awards.

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– Robert Harley
Editor-in-Chief, *The Absolute Sound*, Issue 331

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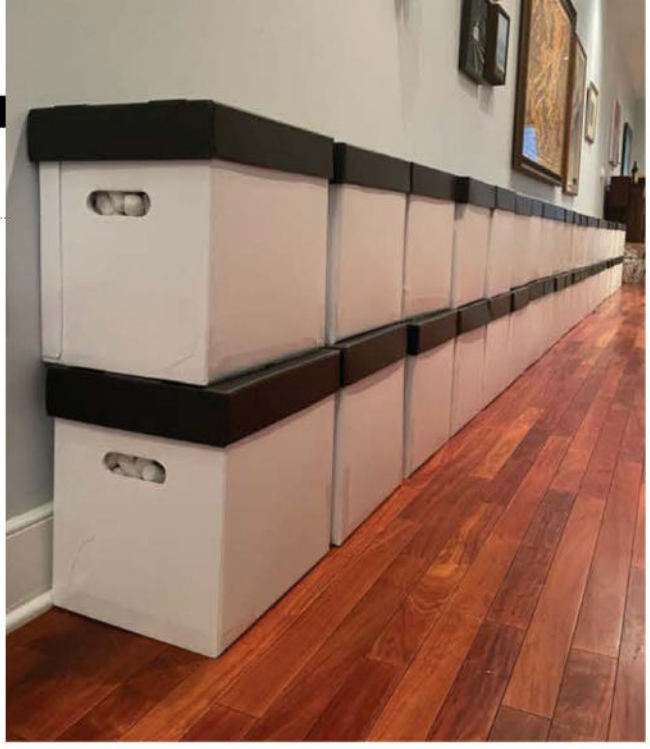
Guest Editorial



LPs boxed and ready to depart.

Selling My Records

It was not a sudden compulsion to jettison my worldly possessions and lead a purer, less encumbered existence. It wasn't, thank heavens, the diagnosis of a life-changing illness or a pressing need to pay off a gambling debt. And it certainly wasn't an epiphany regarding the superiority of digital formats over analog ones. It was because of my grandchildren that I was selling my record collection.

My listening room is part of an intended second master bedroom suite in the condo my wife and I relocated to after departing the suburbs—a high-ceilinged 15' by 15' space with a hallway leading off to the right that obviates any standing wave issues. I've had good results with 40 different loudspeaker models there, ranging from small stand-mounts to hefty full-range floorstanders.

There are two walk-in closets, one behind the listening position and one off that hallway. The former serves as my office; the latter became home to a wine refrigerator, boxes of cables and other audio miscellany, and my LPs. Around 1800 of them, the first acquired at age 13 after I discovered the Mozart horn concertos at music camp, the most recent a *Jazz at the Berlin Philharmonic* two-disc set featuring the Theo Croker Quartet, a birthday gift from an audiophile friend. The records were obsessively organized and conscientiously maintained, stored on shelves I'd built myself before we moved in.

So, where do the grandkids come in? There are two, aged nine and seven, and they live a couple of hours away but visit frequently. We can't get enough of them—card games, art projects, energy-expending excursions to playgrounds, feeding them stuff their parents don't want them to have, and generally just hanging out. But where do they sleep? In the guest bedroom, with our daughter and son-in-law, which isn't ideal.

My wife had a proposal. "We could build bunk beds in the record closet," she suggested. The wine refrigerator could move to the dining room and the plastic tubs of wires and accessories could be stored in the office. All true. But the records would have to go. I really don't think my wife believed the idea had a prayer, but as I considered things objectively over a few weeks, I had to acknowledge that I was keeping my LP collection in large part because it was…a collection. An audiophile badge of honor. In fact, I wasn't listening to vinyl all that often. I'm by nature an early-adopter, acquiring my first compact discs in 1983, jumping into SACD feet first around 2000, embracing computer audio early on and, by the time you're reading this, I'll be up-and-running with 5.1.2 immersive audio. For me, the records were less of a fondness than a fetish. This hobby of ours encompasses so many possibilities, and you just can't do everything.

Michael Fremer referred me to a West Coast dealer who has made a specialty of connecting new owners of megabuck analog front ends (and little to play on them) with individuals with sizable LP collections to sell. At the dealer's request, I made a video of my holdings, moving my phone slowly down the record spines; it ran for nine minutes. A potential purchaser quickly emerged, a resident of a famously wealthy Middle Eastern city who had an interest in classical music, which represented about 80% of my holdings. Before making the video, I pulled out 50 albums to be excluded from the transaction, most of which I felt would be of no interest to anyone but me. The horn concerto record, my first import (a lengthy piano work of Olivier Messiaen's on six extremely noisy sides), an LP I'd played on as a conservatory student—those I kept. The fellow in UAE got my Lyritas, a lot of MFSLs, and 10 Mosaic box sets. Although I probably could have brought in more cash if I'd sold the valuable records a few at a time, I was paid fairly for the entire collection—more than enough to cover the remodeling. The buyer provided robust shipping boxes, the manpower to secure them to pallets, and the not-inconsequential sum required to transport them halfway around the world.

The walk-in closet was reconfigured as a quiet, cozy alcove, completely open to the hallway leading off the listening room. The bunk beds are in, complete with a ladder for whoever's turn it is to sleep on the top level and a reading light for each child. When they're visiting and I stick my head in to say goodnight, I experience a kind of warmth from the knowledge that the 1800 carefully curated inanimate objects the kids supplanted are still largely together, eight time zones away, giving pleasure to a new owner. But, looking at my drowsy grandchildren, I also know who got the better end of the deal.

Andrew Quint

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AudioQuest PowerQuest

The new rack-mountable PowerQuest models—PQ-303, PQ-505, and PQ-707—follow AudioQuest's comprehensive approach to AC power conditioning by addressing noise linearly to provide class-leading, wide-bandwidth noise reduction.The PQ-303's linear noise-dissipation comprises differential-mode filtering (30kHz–1GHz), which addresses asymmetrical noise already present on the utility line or backwashed via electronic appliances and components. The PQ-505 (pictured) adds common-mode filtering (30kHz–100MHz) to address symmetrical noise, which is typically picked up by the AC line's neutral and ground leads. The PQ-707, takes noise dissipation even further with a wider-bandwidth (8kHz to 1GHz) differential-mode filter and also includes Transient Power Correction (TPC). All models feature surge protection and automatic shutdown at 140VAC. They provide 12 total AC outlets: Four high-current and eight linear-filtered outlets for constant-current source components. The inclusion of a direction-controlled AC power cable is crucial to maximizing RF-noise dissipation. **Price: PQ-303: $459; PQ-505: $699; PQ-707: $1299 audioquest.com**

Magico M7

A more accessible version of Magico's semi-active M9, the 65"-tall M7, is a four-way, six-driver floorstanding loudspeaker that features the brand's latest drive-unit technology, an organically shaped carbon-fiber and aluminum enclosure, and the latest Elliptical Symmetry Crossover. The M7 uses the 28mm diamond-coated beryllium tweeter designed for the M9. The 5" midrange driver and the 9" mid/bass drivers feature a Gen 8 Nano-Tec cone formed of an aluminum-honeycomb core sandwiched with outer and inner layers of graphene-infused carbon fiber. The M7's 12" bass unit features a 127mm voice coil and uses a newly designed basket assembly and a Gen 8 Magico Nano-Tec cone. The M7 is a *tour de force* of advanced loudspeaker engineering. Weight: 526 lbs. each. **Price: The M7 will be priced at $375,000 when it begins shipping in Q1 2024. magico.net**

Nagra HD Phono

Nagra HD Phono follows the introduction of the Reference turntable and Nagra MC-4 moving-coil cartridge. The two-chassis dual-mono design employs pure Class A circuitry with 100% tube stages. The delicate phonostage circuitry is isolated in its own CNC-machined aluminum chassis. In addition, it incorporates remote-control cartridge-load adjustability from 5 to 390 ohms, with steps as fine as 5 ohms. Plus, there's a new generation of hand-wound input transformer, its core made with cobalt and then cryogenically treated. A second chassis houses a massive supercapacitor external power supply, which provides all the advantages of battery-based power supplies with the added advantage of accepting and delivering charges much faster and with higher-current load-and-cycle stability than battery-based supplies. Both chassis are suspended on a damped, constrained layer platform coupled to four isolator-damped towers providing superior vibration resistance. Overall gain is adjustable up to 68.5dB. Includes two mc RCA inputs, and an mm RCA input. **Price: $87,500. nagraaudio.com**

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Neil Gader, The Absolute Sound (Issue 342)

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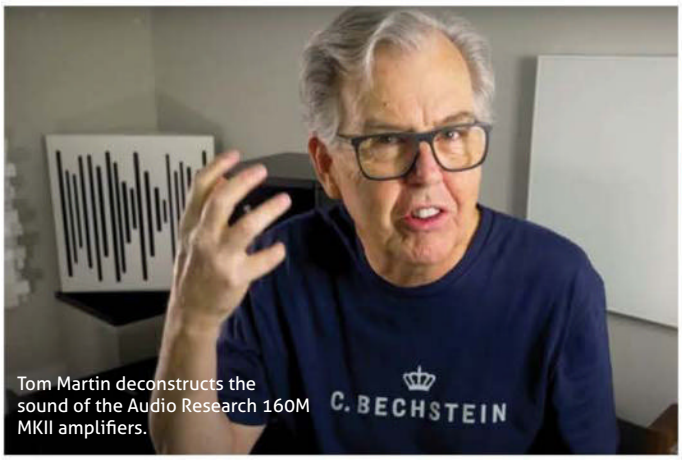
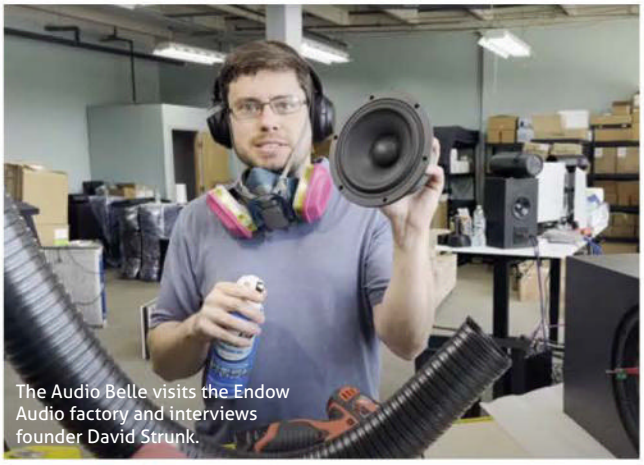
Video Preview

Michael Fremer and Atlantic Records CEO Craig Kallman talk streaming, vinyl and more.

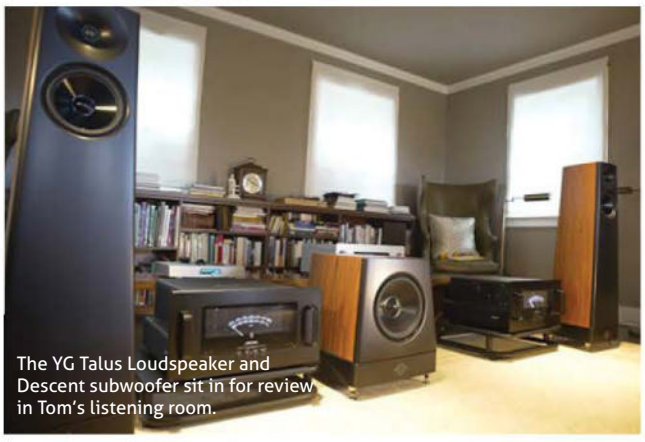


Tom Martin deconstructs the sound of the Audio Research 160M MKII amplifiers.



The Audio Belle visits the Endow Audio factory and interviews founder David Strunk.

Kevin Hayes of Valve Amplification Company details the Signature 202iQ at Capital Audiofest.



The YG Talus Loudspeaker and Descent subwoofer sit in for review in Tom's listening room.

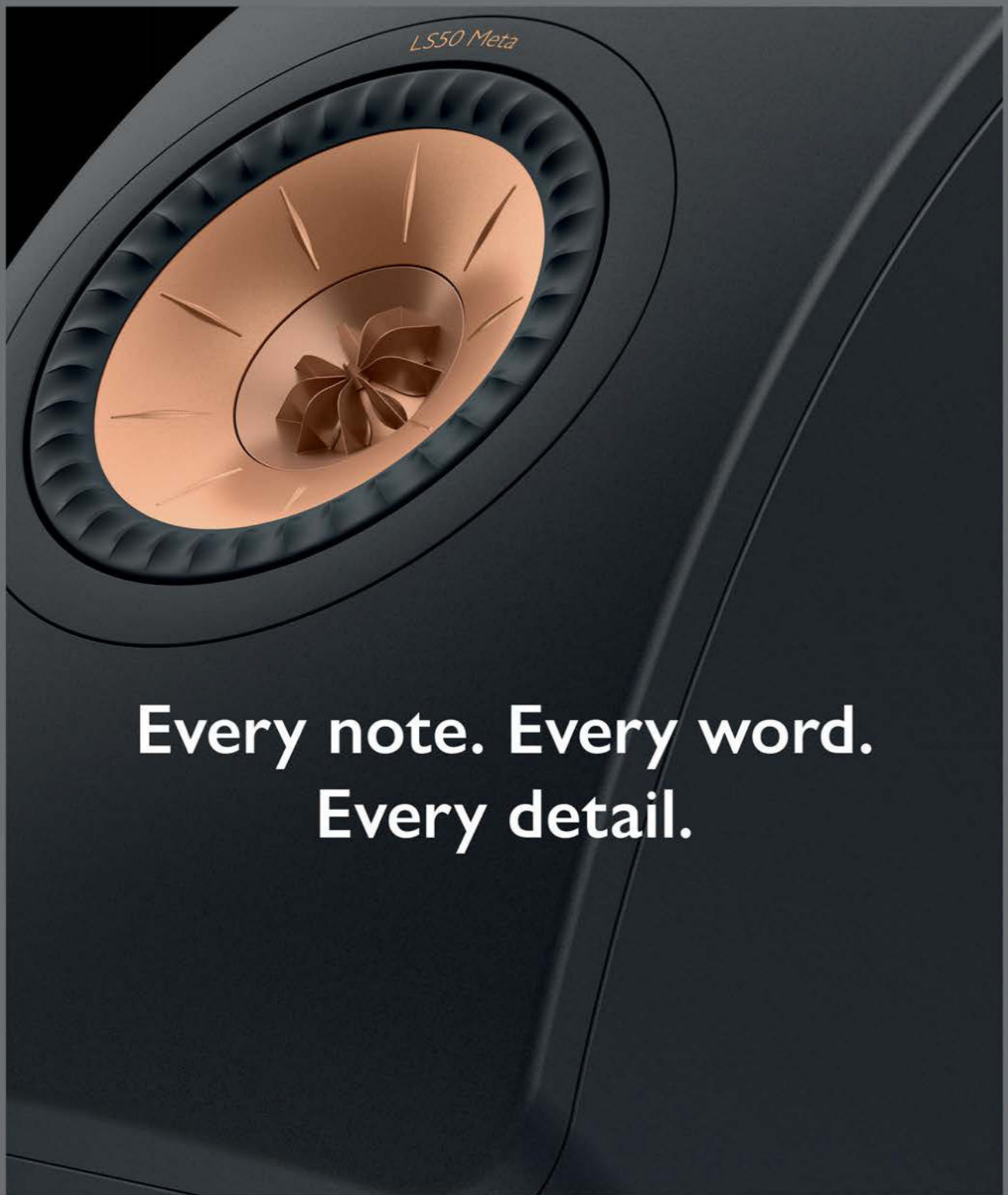
The Absolute Sound's YouTube Channel

Robert Harley

If you're looking for more great high-end audio cover-age, check out *The Absolute Sound*'s YouTube video channel. Our channel is chockfull of videos (more than 200 and counting) that cover everything from a nostalgic look at classic audio products to reviews of the latest components. We've got behind-the-scenes factory tours, show reports, audio-basics tutorials, and designer interviews.

We've also got product reviews, primarily of lower to mid-priced components that are stunning overachievers. The newest videos include a preview of the new YG Acoustics Talus speaker and Descent subwoofer set up in Tom Martin's listening room; Michael Fremer talking with Atlantic Records CEO Craig Kallman about vinyl, streaming, and more (Kallman's LP collection must be among the world's largest); Kevin Hayes of VAC explaining the Signature 202iQ; the Endow Audio factory tour and interview with founder David Strunk; and Tom Martin on the sound of the Audio Research 160M MkII amplifiers. That's just a sampling of lots of fresh new videos on our YouTube channel.

Video is an exciting way of delivering more, and more varied, content than we can provide in the magazine. We also hope to reach the next generation of music lovers who care about sound quality. Go to youtube.com/@TheTASmagazine. While you're there, be sure to hit the "Subscribe" button so that you're notified of new videos. You can also sign up for our weekly newsletter. I hope that you'll check it out. tas



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The 2023 Capital Audiofest

ALAN TAFFEL

THE PANOPLY OF AUDIO SHOWS is beginning to shake out as follows. Munich, as everyone knows, is the largest international audio event. Every major high-end manufacturer plans his most significant product introductions around Munich. In the U.S., AXPONA reigns supreme. Most U.S. audio companies, and even a sprinkling of international firms, organize important debuts there.

But what of the companies, domestic or international, that can't quite elbow their way into the Munich or AXPONA limelight? They have a new product to share with the press and public, but they're either too small or unfamiliar—or the gear they're premiering isn't quite world-changing enough—to break through the noise. What's their recourse?

Increasingly, the answer is the Capitol Audiofest. Though based in D.C. rather than, say, New York, the calculus works. CAF has grown so energetically—30% in the last year alone—that among U.S. shows it is now second in size only to AXPONA. The event has a prime Mid-Atlantic setting that's easily reachable by audiophiles in other major cities. CAF is well-organized and attracts throngs, which pleases exhibitors, and boasts a robust journalistic presence, which pleases manufacturers.

As evidence of CAF's stature, consider the plethora of new product introductions from all over the world at this year's event. A slew of lesser-known brands, like Treehaus Audiolab, Mon Acoustics, Belleson, Q Acoustics, and many others took the opportunity to launch new flagships or line additions. At the same time, many of the industry's biggest hitters—YG, Gryphon, EMM Labs, TAD, Technics, Rega, and Tidal, to name a few—chose CAF to showcase important new models.

As the only TAS attendee to spend all three days at the show, my hands, to say the least, were full. There was no way I could give as much time as I would have liked to all 130 rooms; so, inevitably, I missed some systems and some news. I apologize in advance to any manufacturer or dealer I might have inadvertently slighted. Even so, my notebook brimmed with scribble about new gear and the sound of every room I entered. I've whittled all that down and hereby present the most significant new products and bewitching systems I encountered.

Top 5 Best-Sounding Rooms (In no particular order)

1. **Fidelity Imports/Magnepan.** Fidelity Imports doesn't handle Magnepan, but it turned over one of its *nine* rooms to allow the venerable speaker firm to showcase its new model, the 2.7i. (See Auspicious Debuts below.) Driven by the **Audia Flight FLS 10** integrated amp and an **Aurender** streamer, the 2,7i's on the first two days were incredibly realistic in a way that few besides Magnepan can muster, and the bass was shockingly good. Things got even better on the third day, when the Magnepan folks upgraded the speakers to 'X' status. Total system price: $22k/$26k.
2. **MBL.** As usual, the MBL room was a highlight of the show. This year the company opted to forego the X-Tremes and stick with the "plain old" **101 E Mk II**s, which turned out to be more than satisfying. Indeed, the sense of being in the presence of the musicians and recording venue imparted by these speakers is spectacular. This was the most "3-D" presentation I heard at the show. Even choirs, one of the toughest tests for an audio system, sounded realistic. MBL sometimes gets knocked for playing too loudly at shows, but I was treated to many softer pieces, where the 101's showed off the delicacy of which they're capable. Total system price: $318k.
3. **Acora/Audio Research/VPI.** Although the presence of Acora on

The new Maggie 2.7's hit the size/price/sound sweet spot in the line.

What's better than an all-MBL system? A *white* all-MBL system.

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The 2023 Capital Audiofest

the list of best-sounding rooms may be getting monotonous, the sound these speakers make is anything but. Once again, Val Cora brought his $220k VRC-1 flagships; but this year he swapped out VAC electronics for **ARC** because, you know, he now owns the company. Rounding out the system was a **VPI Titan Direct** turntable and a **Van den Hul** cartridge. The results, as ever, were glorious. In particular, these were by far the most revealing speakers at the show, and bass wasn't just deep and tight but conveyed the character of the instrument playing. Total system price: $500k, including **Nordost Oden 2** cables.

The 2812X has all the historical Quad traits and much more.

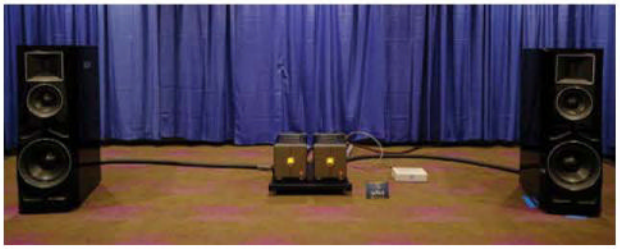
4. **Bending Wave.** For four years, Bending Wave's Elliot Goldman has had the same large room at CAF. There, he's experimented with various combinations of components, always featuring German speakers by **Göbel**. This year, he hit it out of the park, ironically with Göbel's "entry-level" offering, the $90k **Divin Marquis**. Fed by **Riviera** electronics and a complete **Wadax** digital array, the system created a huge soundstage, with plenty of detail and air, excellent transients, and thunderous bass. Most importantly, it unfailingly got to the heart of the music. Total system price: $555k.
5. **Quad/Java.** What's this? A new **Quad**? (See Auspicious Debuts below.) Playing *loudly*? That's right. The surprise of the show was being driven to perfection by a **Michell Gyrodec SE** table and **Java Hi-Fi Single Shot** integrated amp, and the result had all the virtues of Quads of old—lack of edge, infinite coherence, speed, and transparency—plus newfound traits of terrific dynamics and bass. Did I mention they were playing loudly? Manna from heaven. Total system price: $42k.

Top 20 Auspicious Debuts Speakers

Vertically integrated Japanese manufacturer **TAD** introduced the U.S. to the **Grand Evolution One** ($65k). This is the big brother to the Evolution One TX ($30k) reviewed favorably by Andy Quint. The extra cash buys dual 7" woofers, as opposed to five-inchers, and a bigger coincident tweeter/midrange driver. The former enable the speaker to hit 30Hz. As played by an all-TAD system (naturally), the GE1 had a lovely sound that nonetheless did not lack for naturally rendered detail. In this room, it easily reached the deepest depths. TAD also introduced a new preamplifier, the $25k **C1000**.

Any new **Magnepan** is cause for celebration, but the latest may be even more so than usual. That's because the new **2.7i** ($6k) and upgraded **2.7x** ($10k) not only come in at a very attractive price point but are also big enough to be full range, while not being so large as to overpower a room. They include a true ribbon tweeter, too. Their sound at CAF was impressive (see Best-Sounding Rooms above). I predict the 2.7s will quickly become one of Magnepan's top sellers.

The Best of Show system: Acora VRC-1 with ARC electronics and VPI Titan Direct turntable.



Gőbel's Divin Marquis speakers and Riviera electronics made beautiful music.

Lowther, the British speaker builder, introduced the **Edilia** model ($25k+ depending on options). As part of a growing trend, every speaker ordered is customized to the buyer's wishes. Options include aesthetic flavors such as grille-cloth color, as well as sonically impactful choices like driver size. The driver complement is a coincident tweeter/midrange, a super-tweeter, and a woofer—all horn-loaded. Interestingly, there is no crossover on the main driver. Efficiency is an astonishing 97dB, which explains how the Edilia could sound so capable when driven by a **Triode Amp** integrated with just 35Wpc.

Another horn speaker making its U.S. debut was the **Cessaro Wagner 2** ($65k). Driven by a 6-watt tube amp, the sound was what you expect from good horns: lively with extraordinary dynamics. Unlike many horns, though, the Wagner 2 was surprisingly coherent. There was no bass in this outing, but that probably was the fault of the room.

One of the most "inspirational" premiers of the show was the **Q Acoustics 5050**. Though only $2k, the speaker's design showed a great deal of thought. For instance, the driver configuration is MTM, and the mid/woof's cone shape is designed to optimize both extension and tweeter integration. Both attributes were clearly audible, as was bass that was simply unbelievable at this price.

Carmel 3

"The new YG Acoustics sound isn't just evolutionary, it's revolutionary. For such compact reference speakers, the Carmel 3s are deservedly making big waves—and not just in audiophile circles."

INDULGR Magazine

YG ACOUSTICS

yg-acoustics.com

ALAN TAFFEL

The 2023 Capital Audiofest

Diptyque has been building out its line of handsome full-range planars. The latest is the **DP140 Mk II** ($17k), which sits in the exact center of the line, which runs from $8k to $50k. Unlike many full-range planars, the Diptyques don't need gobs of power. At CAF, the DP140 was driven by the exquisite **Soul Note A3** integrated amp, which makes 120Wpc into 4 ohms. The sound was highly dynamic yet natural, though the speakers lacked for bass.

Jeff Joseph may be the most underrated and unsung speaker designer in the industry. But the man knows his stuff, as illustrated by his latest, the **Joseph Audio Perspective 2 Graphene** ($17k). Though a modestly sized floorstander, when driven by **Doshi** hybrid electronics with a **Berkley Audio Design** digital front-end at CAF, it evoked a sense of ease and scale that eluded many other systems.

I heard **The Living Voice RM80** in Munich, where it was much lauded, and have been awaiting its U.S. arrival. Now it's here at a price of $54k. As in Europe, the sound at CAF was warm and highly musical. The RM80s' 93dB sensitivity enabled them to be driven by a **Border Patrol** tube amp putting out just 16Wpc.

For the first time in the U.S., **Kroma** was showing the **Atelier Turandot** ($220k–$240k) in finished form. The speaker features two AMT tweeters, two 6.5" midrange drivers, dual 12" woofers, and a crossover that makes extensive use of Mundorf components. The total package weighs 460 pounds! The sound was as beautiful on a Rubinstein piano piece as it was beefy on Dylan's "The Man in the Long Black Coat."

I was impressed with a new-to-me company called **Mon Acoustics.** At CAF, it released an upgraded version of the **SuperMon Mini** ($2k). Compared to the old version, crossover revisions have improved both coherence and bass output. But what's so striking about these little guys is the quality of materials (aluminum cabinet, Mundorf parts) and innovative design touches (Isobaric woofers) you wouldn't expect at this price. Sonically, they definitely punch above their weight.

CAF was my first opportunity to hear the **Stenheim Alumine Five SE**—driven by **darTZeel** separates, no less. Either due to the room or the setup, the sound was disappointing. However, just down the hall I encountered the welterweight **Alumine Two.Five** ($23,500) making its first North American appearance. Slotting, obviously, between the stand-mount Alumine Two and the slightly larger floorstanding Alumine Three, the Two.Five has got loads of that Stenheim magic. Indeed, they sounded simply wonderful: open, full of timbral detail, and dynamically impactful. At CAF, they didn't plumb the depths, but they produced solid bass circa 45Hz. For me, the latest Stenheim was one of the stars of the show.

The bewitching Stenheim Alumine Two.Five.

CAF was also host to the world premiere of the **YG Carmel 3** ($29k). Successor to the beloved Carmel 2, the 3 incorporates the company's latest technology and manufacturing techniques. These have resulted in a more complex and effective tweeter waveguide, custom caps in the crossover, tweaks to the tweeter, and a thinner yet stronger cone for the mid/woof. Playing with **Vinnie Rossi** electronics, the new 3 was extended both high and low, with a touch of newfound richness.

As already noted (see Best-Sounding Rooms above), there's a new **Quad** in town. It's called the **2812X**, and it lists, according to the rep at CAF, for $10k. That seems strange, since the current Quad 2812 runs $15k. We can but hope the new price is real. In any event, the 2812X is essentially a massively upgraded ESL63. In addition to the metal frame and other tweaks we've seen before, the latest iteration has a re-designed protection circuit that allows it to be played loudly with safety. Let me tell you, walking into a room and hearing Quads, with all their usual splendid virtues, playing at nearly uncomfortably loud levels induces cognitive dissonance. But it happened, so I'm a believer.

Electronics

Belleson, a company known among industry insiders since 2010 for its high-voltage regulators (which are found in many a high-end component) has moved into finished products. At CAF, it introduced its first: the **Brilliance** phonostage ($2500). The unit has three gain stages, of which the first two are current rather than voltage gain, which is said to reduce overall distortion. There are two inputs, each of which can be set to either mm or mc. The niftiest feature is an app that allows complete control of the inputs from your listening seat. For instance, in real time you can adjust resistive and capacitive cartridge loading on the fly.

Famous for its take-no-prisoner powerhouses, **Gryphon** toned things down a bit with the world premiere of the **333** integrated amplifier ($25k). The unit incorporates trickle-down technology from the far more costly Apex and Commander separates. Though an integrated, the 333 still manages to put out, well, 333Wpc into 8 ohms. Sweetening an already sweet deal, in the first quarter of 2024 there will be optional DAC and phonostage cards.

VAC loves CAF, and as is its wont, used the occasion to inaugurate several products. First and foremost was the **202iQ** stereo power amp ($22k). The baby brother of the more powerful (and expensive, at $42k) 300iQ, the new model delivers 100Wpc; it can also be configured as a 200-watt monoblock. According to VAC's Kevin Hayes, the two sound "like peas in a pod." In the VAC room, four 202IQ's running in mono mode were bi-amping a pair of svelte **Von Schweickert Endeavor Special Editions** ($27k).

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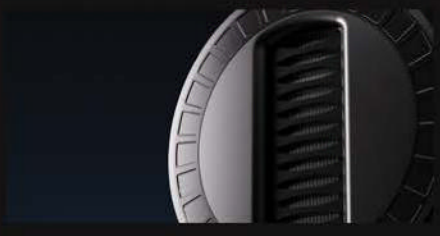

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SHOW REPORT

ALAN TAFFEL

The 2023 Capital Audiofest

VAC's Essence line has a smaller footprint and more accessible price than standard VAC gear.

The combo proved up to the challenge of filling the huge room, evoking a large, fulsome soundstage. Dynamics and detail were nothing to sneeze at, either.

VAC also fleshed out its entry-level Essence Series, which have a smaller footprint and lower price point than traditional VAC gear. As of 1Q24, the **Essence** ($9k) linestage and **Essence 80** monoblocks ($10k each) will be joined by the **Essence Phono** ($9k). The new component features support for two cartridges and front-panel load selection.

Another world premiere was the **EMM Labs MTRS** stereo power amplifier ($65k). The hulk, designed and manufactured in Canada, delivers a healthy 200Wpc into 8 ohms. Its technology trickled down from the MTRS2 monoblocks, but the new model is a single-ended rather than a balanced design. Notably, EMM says the MTRS will drive speaker loads down to a single ohm! At CAF, it powered the estimable Joseph Audio Pearl Graphene, with excellent results.

Sources

Technics has replaced the SL1200 GR ($1800) turntable with the **SL1200 GR II** ($2200). This was the latter's first public showing. Two changes differentiate the models. First, the GR II has a beefier power supply. Second, the new version has an improved "Delta/Sigma" digital-drive control system for the coreless direct-drive motor. Together, they help remove micro-vibrations from the drive train, resulting in a quieter background and greater resolution.

Turntable specialist **Rega** has been gradually moving upmarket. The latest evidence, and the company's new flagship, is the **Naia**, which dips into five-digit territory at $13k, or $17k with Rega's **Aphelion 2** flagship cartridge. Distinguishing the Naia from lesser Regas is a plinth made of sandwiched graphene-impregnated carbon fiber and sand. The titanium arm and bearing and the alloy subplatter are all new, as is the ceramic platter with a concave bottom (to shed weight). Though similar in appearance to the Rega Planar 10, the Naia is clearly much higher tech.

2023 marks **Linn**'s 50th anniversary, and to commemorate the occasion it has released a 50th anniversary edition of the venerable LP12 turntable. The new table is dubbed the **LP12-50** and is sold as a package, complete with Linn's top goodies—arm, cartridge, phonostage—for $60k. Aside from minor, though unquestionably attractive cosmetic changes, the main distinction of the LP12-50 is a plinth made of layered beechwood and bedrock. Oddly, at least to me, the table can be ordered with a phonostage that outputs a digital signal. Fortunately, good old analog is available, too.

Other Notable Introductions

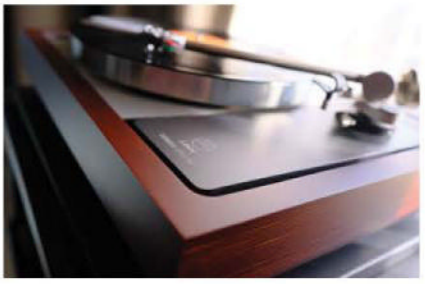
Wells Audio has a new integrated amp, the **Majestic II** ($6k), which outputs 150Wpc. **Ampsandsound**, which was previously focused on power amps and headphone amps, showed two new preamps: the **Yosemite** ($25k) and the **Yellowstone** ($34k). The two are similar, but the Yellowstone has a remote and a more sophisticated volume control. Both include built-in phonostages.

Rogue Audio revealed two new models. The **RP-5 V2** ($4k) is a preamp with much of its circuitry borrowed from higher models. Though tubed, it includes a solid-state phonostage. The **Cronus Dark** ($4500) is the company's new flagship integrated amp. Everything is upgraded compared to the standard Cronus. It sounded mighty fine driving the Joseph Audio Pulsar 2 Graphene speakers.

Legacy had a busy show, introducing a new speaker and two new power amps. The **Aeris XD** ($23,400) is an Aeris with greater low-end extension and includes active woofers. The **IV2** ($3850) and **IV4** ($6k) are two- and four-channel Class D amps, respectively. Both use ICE modules and put out a staggering 660Wpc into 8 ohms.

Acoustic Energy got a lot of buzz around the show for its **Corinium** speaker ($8500), new to North America. It has a slotted port, MDF cabinet with aluminum front baffle, a synthetic silk tweeter, carbon-fiber mid and (dual) bass drivers, a second-order crossover, and a splendiferous finish.

Naia is Rega's new flagship, and its first turntable over $10k.



Linn's 50th Anniversary Edition of the venerable LP12 turntable.

Refined elegance meets uncompromised performance. The new generation of Imagine Series featuring the B50 Bookshelf, T54 and T65 Tower, are crafted with sleek minimalist cabinets and world-class driver technologies to deliver incredibly detailed acoustics. A sophisticated style at an incredible value, the Imagine Series brings PSB's true-to-nature sound together with a beautiful design for every listener.

The 2023 Capital Audiofest

Among the many other speaker intros was **Tidal**'s **Contriva G3** ($79k). As mentioned in the Munich reports, the speaker is gorgeous. **Treehaus Audiolab** upgraded its flagship model, the **Phantom of Luxury**. (Let's hope Rolls-Royce doesn't sue.) It costs $32.5k and features an open-baffle field-coil driver, Iconoclast internal wiring, a newly upgraded woofer, and a transformer-attenuated super-tweeter said to have superior impedance matching with the other drivers.

There were relatively few DAC introductions at CAF. One was the **Geshelli Labs Dayzee** ($1300–$1700, depending on options), which employs an AKM 4499EX chipset. Another was the **Linear Tube Amplifier Aero** ($3600) non-oversampling DAC, boasting an ARM front-end processor, six power supplies, and a David Berning-designed output stage. In other source news, the **VPI Titan Direct** ($60k) made its world debut in the Acora room.

The unique Treehaus Audiolab Phantom of Luxury.

Finally, among the cable introductions were three new power cords from **Triode Wire**: the **Digital American 2** ($549), **9 Plus** ($499), and the entry-level **11 Plus** ($299). All are cryo-treated. All prices are for 5-foot lengths. **Siltech** debuted the **Royal Crown** series (prices vary).

ALAN TAFFEL'S BEST OF SHOW

Best Sound of the Show

Competition was fierce, but in the end the very best sound could be found in the **Acora** room—again. Listening to the **VRC-1** after hearing virtually any other speaker is like switching from LP to mastertape. It's that revealing. Which makes it mesmerizing.

Best Sound (for the money)

The **Q Acoustics 5050** ($2k) speakers, paired with a **Unison Primo** integrated amp ($2k) and **Uno** CD player ($3k), made for a supremely accomplished combo. Not the most extended on top, but otherwise you'd never know you were listening to a $7k system.

Most Significant Trend

"Bespoke" components. That is, components that, like a Bentley, are tailored to the individual customer's preferences, both aesthetic and sonic. I saw half a dozen brands offering this service; some are doing it exclusively.

Most Significant New Product

A tie between the new **Quad 2812X** and the **Magnepan 2.7i/2.7x**. Both are full-range planars, comfortable in size and price, and both are sonic knockouts.

Best (Non-Humorous) Anecdote

Late Saturday night, in a packed Acora room, the Audio Research preamp temporarily crashed. The hotel's meager power (would you believe only 94 volts?) triggered its protection circuitry. Problem was, it wouldn't immediately come back up. VAC's Kevin Hayes was there, and asked Val Cora, who now owns and runs ARC, VAC's biggest competitor, if there was anything he could do to help. "I'm not sure," said Val, "but if worse comes to worst, I might need a preamplifier." To which Kevin unhesitatingly replied, "Whatever you need, you will have." That's what I love about this industry; everyone is pulling for each other. (The ARC preamp came back to life a few minutes later.)

Best Humorous Anecdote

The quick-witted Andy Quint couldn't make the show this year due to COVID, so this space shall remain blank.

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SHOW REPORT

JACOB HEILBRUNN

The 2023 Capital Audiofest

JACOB HEILBRUNN

Show Highlights

AS I SAUNTERED THROUGH the 2023 Capital Audio Festival, Brad O'Toole, the representative for Vandersteen Audio loudspeakers, tapped me from behind on the shoulder. My assignment, should I choose to accept it, was to accompany him to Suite 319 to listen to the new $19,200 **Vandersteen Quatro CT** speakers. I accepted. It was a wise decision. The Quatro CT loudspeakers, which features an active bass section that comes in at 100Hz, sounded very nifty indeed. On an LP featuring Melody Gardot played back on the new **Rega Naia** $12,995 turntable with the $4000 **Rega Aphelion 2** cartridge, the bass was rock solid and the highs clear and dynamic. The $10,500 **m500 Meitner MA3** DAC and $6299 **Innuous Zenith** server delivered premium digital sound, as well. The system was rounded by **Transparent Ultra** interconnects, which run $3200 in XLR for 1 meter and **Transparent Premium** power cords for $650 a pop.

Next, I headed over to **United Home Audio**'s demo, where Greg Baron was showcasing his **SuperDeck** tape recorder and a passel of **MBL** equipment, including the $91,000 per pair **101 E MKII** loudspeakers, the $64,100 **9011** mono amplifiers, the $32,400 **6010 D** preamplifier, the $34,000 **1621 A** CD transport, and the $34,200 **1611 F** D/A converter. The mighty monoblocks drove the 81dB-sensitive, four-ohm MBL 101 loudspeakers with ease. As it happens, with the company's representative Antoine Furbar as my cicerone, I recently visited both the MBL showroom in Berlin and its factory in Eberswalde, which gave me a good sense of the extreme efforts that the company puts into manufacturing its loudspeakers and electronics. With Beron's superlative tapes as the source material, the sound in his room was utterly beguiling.

None of this came as a real surprise given my familiarity with MBL's products. What was surprising, however, was the **Magnepan** room. For slightly over a decade, I used Magnepans, addicted to their transparency and large soundstage. But I also rebuilt the Maggies, as they are known. Back then, the parts quality could at best be described as iffy. No longer. The company seems to have emerged from the Dark Ages. It now features an "**X**" upgrade program that includes better wiring, capacitors, coils, connections, and inputs. The improvements were immediately audible on the $10,000 **MG2.7X**. Its rendition of Thomas Dolby's song "I Scare Myself" was exemplary—big scale plus real dynamic punch, something that has always been the weakness of the dipole Magnepans.

Perhaps an even more audacious approach to panel speakers was represented by the $9995 **Quad 2812X** electrostatic loudspeakers. Who other than the redoubtable Robyn Wyatt to demo them? Wyatt always offers an intriguing mix of venerable and new technology. He brought along the $1425 **Miyajima Labs Spirit Mono Pure Diamond** cartridge, the $4000 **Michell Gyrodec SE** turntable, and the $8995 **Kava Hi-Fi Single Shot** integrated amp/pre/DAC/phono, which drove the Quads to sound pressure levels that I would hardly have believed possible had I not been in attendance to witness them.

Jeff Fox with the J.Sikora turntable.

Arion Audio and Audio Research.

Believe it or not, the **Arion** room featured yet another ribbon loudspeaker—the $59,200 **Apollo 12** loudspeakers. They may not have blasted off into orbit, but they were formidably impressive. They were featured with a dual-pack woofer package that retails for $9600 and driven by a $36,000 **VPI Avenger Direct** turntable. Contributing to the excellent sound were a $18,000 **Audio Research Reference 6SE** linestage and $18,000 **Reference 3SE** phonostage, not to mention the superb $38,000 **Reference 160M** monoblock amplifiers.

Then there was local hero Jeff Fox, the proprietor of Command Performance AV, which is in northern Virginia. Fox was featuring the $23,000 (*sans* tonearm) **J.Sikora Standard MAX Special Edition** in a gleaming Ferrari red. Personally, I loved the color. It set off the black platter beautifully. It was feeding the new $45,000 **Magico 2023 S3**, a potent 3-way loudspeaker whose combination of dynamics, clarity, and finesse made it a winner.

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SHOW REPORT

JACOB HEILBRUNN

The 2023 Capital Audiofest

Not quite as much to my taste was the **VPI** room, which I thought sounded excellent the previous year, when I first heard the Audio Technica MC2022 cartridge. Longtime VPI head honcho Harry Weisfeld leaned pretty heavily on the volume knob as he played the new $25,000 **MC Audio Tech TL-12** loudspeaker. Lots of slam and wow factor, but where was the refinement? Outside the room were a variety of butcher-block isolation slabs that VPI is selling. A knuckle-rap test suggested that they were suitably inert.

Avantgarde Duo GT driven by darTZeel.

Like Weisfeld, Angie Lisi, who heads American Sound of Canada, is an old audio pro. She was playing the $9990 **Rethm Trishna** semi-active (the bass is run by an internal switching amplifier) loudspeaker, which sounded monstrously powerful when coupled to a $14,999 **Western Electric 91E** integrated amplifier. If you know Angie, she likes to play it loud and proud, and the Western Electric was more than up to the challenge.

Another loudspeaker that is easy to drive is the **Avantgarde Duo GT**, which runs around $80,000, depending on how you trick it out. John Stone of darTZeel America was displaying the Avantgardes together with a **darTZeel NHB-108, Mk. 2**, which will run you a cool $60,000 or so. Stone, an ardent music lover, produced an elegant sound with this heavenly musical combination, though the room, it must be said, was a tad small for the mighty Avantgardes.

After sampling such a wide range of systems, my next mission, as I saw it, was to acquire a few LPs, which I did. Vinyl dealer Chris Armbruster was conducting something of a fire sale on Blue Note LPs and I couldn't resist picking up a first pressing of Donald Byrd's album *Fuego*, which was first released in 1960. Like the album, whose title means fire in Spanish, the Capital Audiofest proved to be a colorful and exciting event. tas

Angi Lissi with Rethm speakers.

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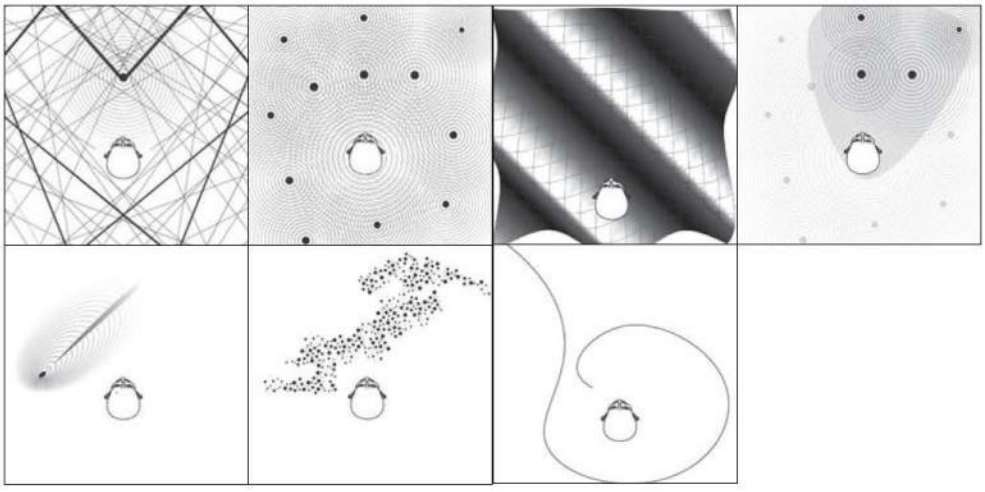

Going Spatial

Music's Next Frontier

Laurie Anderson & Edgar Choueiri

Illustrations by Edgar Choueiri

This essay was first published in the book, Ways of Hearing, *published by Princeton University Press in 2021, in which several authors were asked to contribute an essay on their favorite piece of music. Ms. Anderson and Prof. Choueiri chose, instead, to write about their favorite topic: spatial music. Reprinted with permission from Princeton University Press.*

I

Bach's Mass in B minor, Schütz's Passion Motets, Lou Reed's "Pale Blue Eyes," Umm Kulthum's chanting of the Surah of Abraham, every Georges Brassens song, Led Zeppelin's first two notes on its first album…Our favorite musical bits are erasure-proof memories —pleasurable recollections we can always conjure up with a mere tap on an audio player. We like to talk about them, see something of us in them, and share them with kindred spirits. We do so with the subliminal hope of reaffirming, or furthering, a connection, like a light kiss on a willing cheek. We like to think of this book of essays as a string of such kisses.

But in every composer and technologist hides a futurist, and the futurist in the two of us is more anxious to anticipate than to contemplate. So, instead of talking about the music we love, we set out to imagine a music yet to be made.

With 130 million tracks in the Gracenote database, a melophobic mathematician steeped in the theory of permutations might provocatively ask: What music remains to be made? We like to retort that music, far from stalling its flight, may be just about to make a big leap into a new space, or more specifically, a leap into space—3D space that is. Music is going spatial.

Spatial music is music in which the spatial aspect of sound—the perceived location, extent, and movements of sound sources in surrounding space—is more or less equal in stature to the traditional aspects, or elements, of music—pitch, timbre, texture, volume/dynamics, attack/duration/decay, melody, rhythm, and form. We shall call this traditional aspect of music canonical and contrast it with the spatial.

We are thus as oblivious to the music that is constantly unfolding in natural space as we have been unfazed by the lack of spatial sound in music.

Our daily experience of sound outside of music is rich in the spatial aspect and poor in the canonical. We constantly hear sounds localized or moving in 3D space, but most sounds—the engine rattle of a passing bus, the rustle of tree leaves in the park, even a melodic birdsong—heard one day are not easily hummable in the shower the next. In most music the opposite has been true: We hum and remember the melodies, and we sway to the rhythms, but we have grown to accept that the spatial location and extent of musical sounds and their movement in space are, at most, secondary to the canonical elements. We are thus as oblivious to the music that is constantly unfolding in natural space as we have been unfazed by the lack of spatial sound in music.

The spatial "color" has largely been missing from the composer's palette, due, no doubt, solely to technical difficulties—having a violinist float untethered into the sky, a singer whisper in your ear, the crash of cymbals accelerate towards you from all directions. It is as if the color red were always missing from the painter's palette for solely technical reasons (say, nature somehow made it difficult to extract red pigment from the many red things around us); ergo, all paintings in our museums have not a hue of red and we have grown accustomed to this incongruence between nature and art.

The incongruence between the abundance of the spatial color in nature and the lack of it in the art of music has unsettled and motivated more than one pioneering composer, from the earliest days of antiphony to the computer age. These experimentalists strived and struggled feverishly. They chopped choirs into pieces and strewed them around the church (Palestrina), immersed bewildered congregations with sound from enthralling rings of singers (Striggio, Tallis), prescribed voices to move along dramatic trajectories on a stage (Monteverdi), sliced the

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orchestra into layers of spatial polyphony spread over the concert hall (Ives) and even a whole city (Brant), filled large cavernous spaces with synthetized sounds from hundreds of loudspeakers (Varèse), and, bordering on the absurd, even got a string quartet to circle a stadium in four helicopters (Stockhausen)! These attempts and experiments show that the idea of spatial music is not new. They also reflect as much pioneering inventiveness as, perhaps, frustration with the lack of tools that could allow the rendering of the spatial in music as freely and dynamically as its rendering in nature. Had Palestrina the technology and tools to levitate his prepubescent sopranos to flutter like angels high in the church's apse, wouldn't he have done it? Could it be that such tools are finally here?

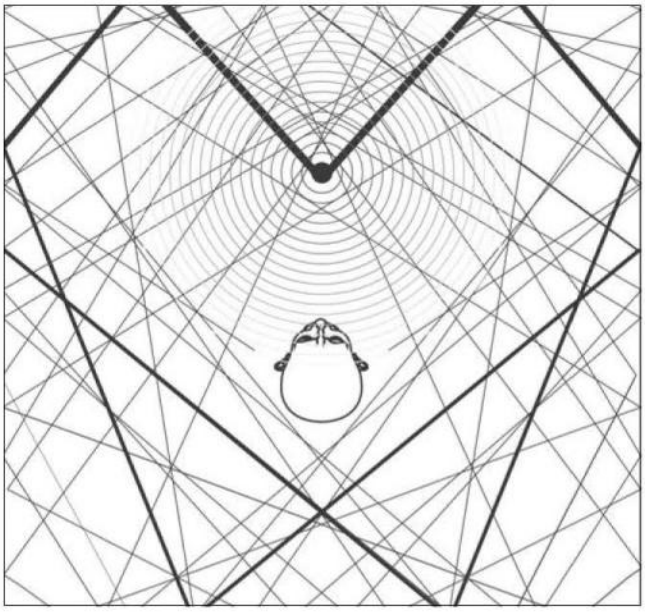
Indeed, with intimidating names such as "wave field synthesis," "higher-order ambisonics," "auralization," and "crosstalk cancellation," recently matured audio technologies and techniques, fueled by the quest for augmented reality (AR), are just emerging from research laboratories around the world. They are promising to enable music to make its long-heralded spatial leap—to add the missing "red" to the palette of music making. It is in this context that the two of us set out to celebrate the advent of these tools and imagine a music yet to be made.

We first sat in a beautiful and venerable library and tried to play armchair theorists. We set ourselves the mental exercise of imagining what it takes to create, now that it seems technically feasible, a piece of music in which the canonical is almost completely suppressed in favor of the spatial—music with virtually no melody or rhythm or traditional orchestration but which works (i.e., gives pleasure) through purely spatial effects. We quickly realized that we badly lacked the vocabulary, the esthetic framework if you will, to describe the character of such music let alone the ability to prescribe its laws. Formulating laws of composition is the sober work of theorists, and neither of us fancied ourself a real theorist, but honing a new vocabulary is more in the impish realm of songsmiths and playful poets—the stakes may be lower but more is the fun, and the worst that could happen is that few would hum our song. So, we opted for the lighter quest and, with unburdened spirit, left the venerable library, crossed the street, and walked into a softly lit restaurant.

II

The restaurant, it turned out, was new in the neighborhood. Unadvertised, and not yet fully open to the public, it allowed a small and hesitant trickle of curious neighbors to come in and find themselves subjected to the experimentation of an exacting Italian chef intent on crafting new dishes using local ingredients and elements of the cuisine of the Veneto region, from where he hails. Learning that our chef, too, was on a quest to hone a new vocabulary of sorts, we felt kindred to him and his kitchen, from which flowed a string of sublime dishes that seemed as verses of one poem. Enchanted, exhorted, and with our sense of grandiosity fortified by a heady Corvina wine, we echoed that culinary versification, dish by dish, with one of our own: a list of elements for a tentative esthetical framework for spatial music!

Indeed, by the time, hours after we had sat down, the seventh dish, a dessert by the mellifluous name of *millefoglie con nocciole e mascarpone all arancia*, was brought out, we had minted the last of our list of seven elements. The complete list was: Reverb; Envelopment; Depth & Proximity; Spatial Extent & Resolution; Motion; Spatial Modulation; and Spatial Segregation.



Reverb

What follows is our attempt to argue that these seven elements, despite their technical sounding names, can be understood easily and intuitively, and that they can constitute a natural framework to talk about the spatial aspect of music, at least until we stand corrected by a scrupulous scholar or a diligent graduate student.

Each discussion that eventually led us, albeit circuitously, to stumble on, and define, one of these cardinal elements (highlighted in bold below) was triggered by something one of us told the other.

Have You Heard the Troy Savings Bank?

Laurie asked this question with so much awe in her voice that one would think she was referring to a new Caruso. But how could one hear a space, let alone a savings bank?

When someone claps once in an enclosed space, a listener in that space first hears the direct sound, then, a few milliseconds later, the sound of the clap having reflected off a nearby surface, arrives again, a bit softer, at the ear of the listener. Other reflections of the clap are in turn reflected again, and again, before reaching the listener's ears. It is those numerous later reflections, which reach the ears almost randomly from all directions and fuse into a sort of pleasant, soft, and quickly decaying din, that we call **reverb**, and that give the space its acoustic identity. The Troy Savings Bank happens to have a beautiful reverb—the most stunning that Laurie, who performed there, had ever heard. But what makes a space's reverb "beautiful" to humans? Reverb, Edgar speculated, gives us the reassuring sense that we are safely cocooned in a protective space,

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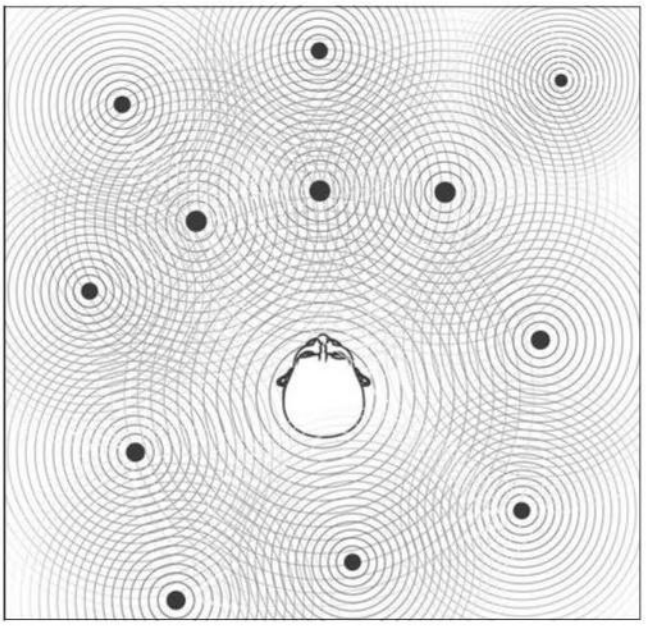
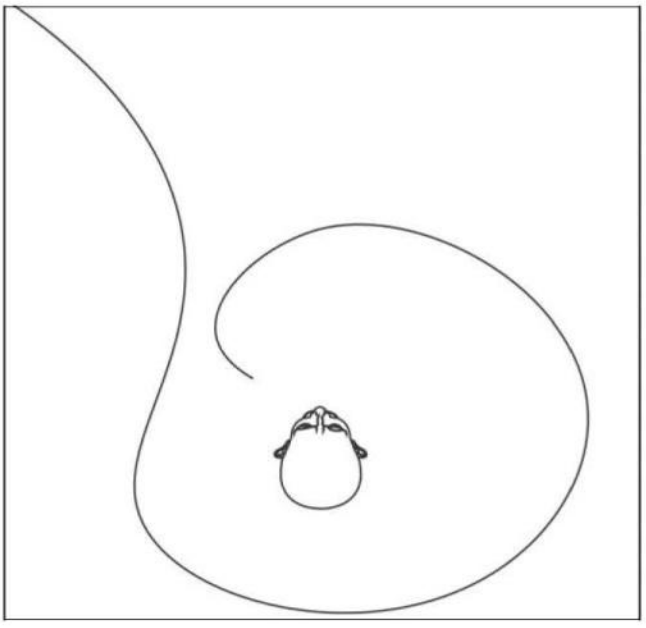


Envelopment



Proximity/Depth

like that of our ancestral caves. With no reverb, which would be the case in open air, we tend to feel exposed. On the other hand, when the later reflections that make up the reverb "tail" of the sound reach the left and right ears at the same time (acousticians, in their particular parlance, call this "reverb with high inter-aural correlation"), which would be the case in, say, a squash court or the symmetric corner of a room, we tend to feel anxious, perhaps a subconscious reminder of a primordial fear, like that of being trapped in a corner of the cave. There seems to be a sweet spot (the holy grail of concert hall acousticians) between no reverb and a highly symmetric one ("highly correlated"), where humans are most seduced by sound. With this much emotional and esthetic impact, reverb deserves first place in our List of Seven.

The Singing Trees of Basel

Reverb is often enveloping, "like a diffusing perfume," Laurie (whose late husband once concocted a scent of gasoline and leather) mused. But sound envelopment does not require reverb. One can be as effectively enveloped by direct (i.e., non-reverberant) sound. As if to illustrate this part of our dinner conversation, Laurie a few years before conceived and constructed a number of trees for a park in Basel where each tree was filled with many tiny speakers, like leaves, all emitting the same cicada-like chirp. Walking among the trees, the listener is surrounded by sweeping and enveloping patterns of sound. The piece thus eschewed the canonical and relied solely on the spatial for its evocative and meditative power, in particular on a single spatial element: **envelopment**, which takes the runner-up place on our List.

"And the locusts sang, off in the distance"

Nature itself has been staging, in the eastern United States, a long-running series of enveloping cicada-tree-concerts of its own (even longer running than Princeton's 125-year-old concert series!) following a very specific and peculiar schedule: every 17 years. Every 17 years, on a spring evening, with uncanny and primeval synchronicity, the aptly named magicicada nymphs emerge from the ground, in millions, climb up trees, molt, and the males among them form choruses that sing a mating song for weeks in an almost deafening unison. Spatial music critics agree that their last performance (in 2004) was lackluster. They barely showed up— harbinger of a brewing lament from a tormented Earth? But Edgar fondly remembers the performance of 1987: "It was impossible to have a conversation under my maple tree." In 1970, they set up a tremendous show in the majestic white ashes that surround Nassau Hall, to inspire Bob Dylan, who came to Princeton to receive an honorary doctorate, to write his "Day of the Locusts" song: "And the locusts sang, off in the distance/Yeah, the locusts sang such a sweet melody." Dylan, the eternal bard, heard the cicadas "off in the distance," chanting high up in the grand domed canopies, and it sounded sweet. But step under a diminutive dogwood on the day of the locusts, and the unnerving cicada shrills are more those of a biblical infestation. The difference? Proximity. Proximity, our third spatial element, is a powerful emotive tool that can work on its own, as in our day of the locusts example, or as a catalyst when combined with that old canonical element, volume: Proximity + High Volume = Threat; Proximity + Low Volume = Whisper. These two equations do not hold well without proximity, since high volume by itself from a distance is not threatening, nor can low volume by itself from a distance invoke a whisper. Proximity is a corollary of spatial depth, and to be more inclusive we shall call our third element **Proximity/Depth**.

The Man Who Captured the Sea

Laurie recalled, "Bob Bielecki came to visit. He set up an unassuming playback array of 48 small one-dollar speak-

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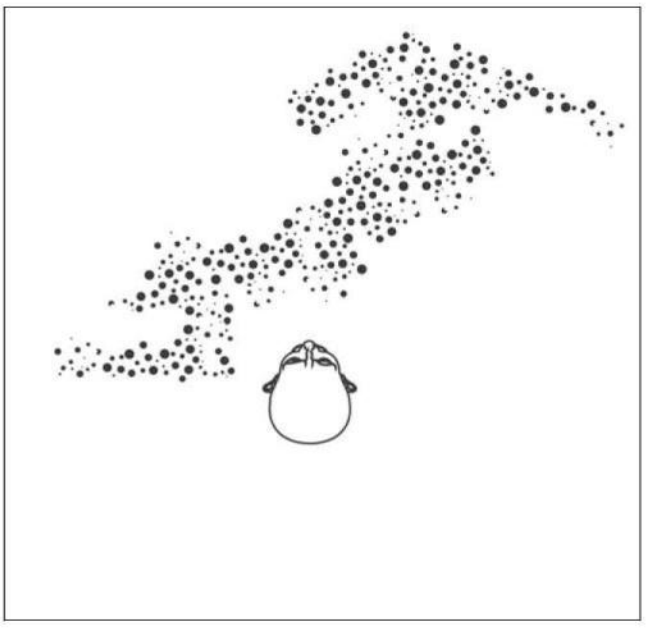

Spatial Extent and Resolution

Motion

ers in a line, which he used to play a 48-track recording he did with an equal number of microphones. There was no processing, nothing fancy. The recording was of waves on the seashore." She paused, and whispered, "It was the most amazing representation of space. It did not surround you but had a mid and a front. It presented itself to you." It did not take us too many sips of wine to figure out that Laurie's rapture can be traced to two related fundamental elements: **spatial extent and resolution**. Extent, quite distinct from envelopment, is the perception that the sound occupies a three-dimensional volume like a hologram, unlike the soundstage of regular stereo playback where the sound is confined to a thin layer of space (a so-called "phantom image") between two speakers. Resolution, on the other hand, is the ability to discern detail and structure within that extent. Bob's feat, despite his rudimentary technique (technically, it is the simplest implementation of a method called "wave field synthesis"), also hints at something fundamental that is contentious enough to be better left as a question: If an array of cheap speakers that obviously lack tonal accuracy can capture the realism and presence of the sea more than an expensive and tonally accurate system that lacks spatial accuracy (say, an audiophile stereo system), doesn't that hint at the superiority of the spatial realm over the canonical one?

"Grandiose absurdist entertainment"

Thus was Stockhausen's Helicopter String Quartet, spatial music's most infamous attempt at motion, judged by Alex Ross, the *New York Times* music critic, on its premiere in 1995. One suspects that even such daredevils of the canonical realm as Stravinsky and Schoenberg, among others, fearing such brutal critical judgement, shied away from composing for the marching band in favor of perfectly stationary players. But now that new tools allow panning, projecting, and moving sounds anywhere in 3D space, **motion** becomes another hue of that once-elusive "red pigment." A sound accelerating fast along a trajectory in space can leave us as breathless as can an increasing tempo. So, motion is to the spatial what tempo is to the canonical, and much more. While spatial motion, speed, and acceleration can pack as much emotive punch as their canonical counterparts (e.g., *accelerando* and *ritardando*), motion in space can do something tempo simply can't: modulate the very pitch of sound. ("Modulate" is just a fancy word for modify.) The textbook example is the Doppler effect, which makes every passing train's whistle a delightful two-tone glissando.

They Bounced the Moonlight Sonata Off the Moon

The Doppler effect is an example of motion in space modulating (the pitch of) sound, but space itself can directly modulate sound—many aspects of musical sound. A flute is an example of space (i.e., the space inside a hollow tube with holes) modulating pitch, and in a very similar way, a living room's space and walls modulate the bass component of sound by setting up a wondrous stationary pattern of sound (called standing waves). Play a pipe organ recording in that room, walk into that standing wave pattern and you will hear the bass notes magically disappear or become deafening depending on where you walk. **Spatial modulation** is an almost infinite trove of numerous magical effects that go by scientific and poetic names like dispersion, diffraction, refraction, reflection, absorption, resonance, feedback, amplification, and evanescence. Laurie reminisced about experiments with ethereal guitar feedback in monumental spaces. Edgar waxed about a sensitive instrument in his rocket lab that, thanks to a serendipitous resonance, picked up from 40 miles inland the sound of the ocean deep rocking the New Jersey land mass. The concept of spatial modulation of sound is so visceral to nature that the mathematical equation that describes it—the

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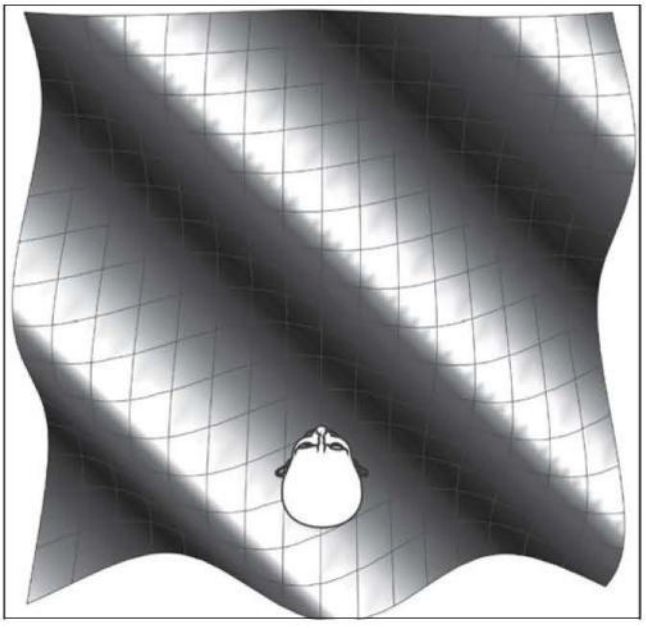
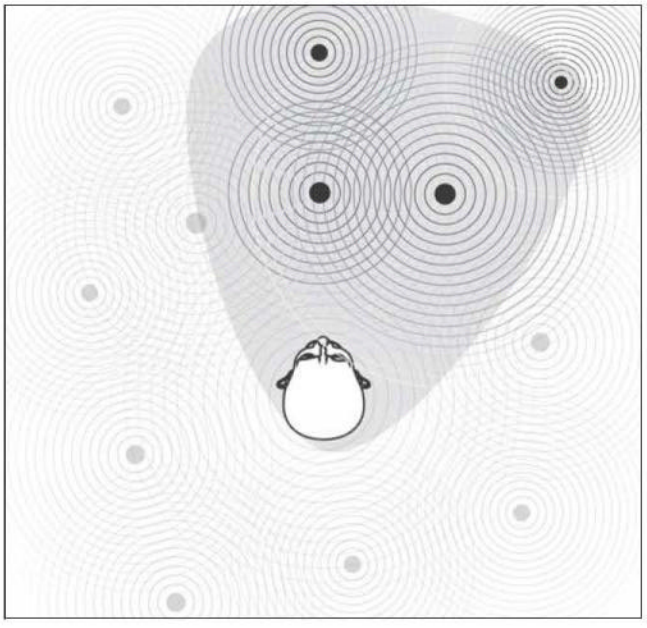


Spatial Modulation



Spatial Segregation

fundamental "wave equation"—is essentially the same one that describes the structure of the atom. Until very recently, the key to that trove of spatial modulation effects was not available, and not a single aspect of this richest of the spatial elements could make it into any of Beethoven's works. As if to redress the wrong and usher the maestro into the spatial realm, the Scottish artist Katie Paterson coded the *Moonlight* sonata into radio waves, shot them at the Moon where they diffracted around craters, dispersed on the surface, then reflected back to Earth and were decoded into electrical signals that drove a player piano. Laurie heard it. She described it as "exquisitely fractured."

What Ives Was Up To

A proof that theorists are sometimes useful is a classic book with the clinical sounding title *Auditory Scene Analysis* by the Gestalt psychologist Albert Bregman. There we learn about the perceptual phenomenon of **spatial segregation**,* through which a listener's ability to unravel the content of complex auditory signals is enhanced when the signals are spatially segregated. In its musical analog, spatial segregation helps us unravel convoluted melodic and rhythmic composition, much like adding color to the strands of a complex braid helps us better perceive its structure. Here is a little thought experiment that illustrates spatial segregation in music: Take a Bach three-voice fugue and have it played by three pianists on three separate pianos placed far apart in a large hall, instead of by the single keyboard it was intended for. A listener now has the ability to lock in on one voice and effectively "mute" (or "mask," to use Bregman's term) the other two at will. Granted that is not what one ought do to a Bach fugue, but for a complex polyphonic work, spatial segregation could act like shining revealing spotlights on an amorphous scene.

A proof that composers don't have to wait for the formalized insight of theorists to make a breakthrough is that Charles Ives, well before Bregman's seminal 1990 book, relied precisely on spatial segregation when he spatially separated sub-groups of a symphonic orchestra to better reveal his complex polyphony. There is poetic justice in liberating the oppressed: the spatial, once liberated, far from displacing its historical oppressor the canonical, acts with benevolence to enhance it.

And so, we added spatial segregation to our little glossary for going spatial.

III

When the Corvina grapes had imparted all their spirit, the *millefoglie* had withered down to its last leaf, and the kitchen had gone dark and quiet, we stepped out into the brisk Manhattan night clasping our List of Seven Elements.

Suddenly, we were both struck by the suspicion that someone had somehow beaten us to the List, for, as we reached the avenue, we were immersed in a sort of spatial sonata, with envelopment, depth, proximity, extent, resolution, modulation and motion, even down to the Doppler effect: A taxi driver, speeding down the avenue blew by us, and, like a trilling nightingale grazing a startled traveler, splashed us with the sounds of his favorite Urdu music. tas

*Bregman calls this "spatial masking," but we find this term a bit opaque in the context of spatial music.

Laurie Anderson is a world-renowned composer, avant-garde artist, musician, writer, inventor, and film director. She is a pioneer in the use of technology in music composition, performance, and recording, and has been exploring the spatial aspects of music for decades. She continues to perform live concerts around the world. In 2021 she was appointed Charles Eliot Norton Professor of Poetry at Harvard University and was described by the *New York Times* as "one of America's major, and majorly confounding, modern artists."

Dr. Edgar Choueiri is Professor of Applied Physics at Princeton University, and head of both Princeton's Electric Propulsion and Plasma Dynamics Laboratory (where he works on spacecraft propulsion) and the 3D Audio and Applied Acoustics Laboratory (where he works on spatial audio). He is author of more than 250 scientific publications and the recipient of numerous awards, including a knighthood. He is also the founder and president of Theoretica Applied Physics, a high-end audio company and maker of the acclaimed (TAS 2022 Product of the Year and 2023 Golden Ear Awards) BACCH-SP stereo purifier for spatial music reproduction.

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In 1967 Blue Note released a record by tenor saxophonist Hank Mobley featuring a female model dancing on the expansive hood of a white Cadillac El Dorado. The pithy album title said it all—*A Caddy For Daddy*. For decades a Caddy was synonymous with American power and swagger, which is why the singer and actor Isaac Hayes zoomed around Memphis, Tennessee, in a gold-plated El Dorado and Bill Clinton used a 1993 Fleetwood as his presidential state car.

Fleetwood—a small town located in Pennsylvania Dutch country—was at the heart of much of the Cadillac success story. Fleetwood Metal Body was founded in 1909 and supplied the coaches for brands like Rolls-Royce, Duesenberg, and Cadillac before it was bought out by General Motors, which transferred its operations to Detroit. The fabled Fleetwood Cadillac line was named after the town.

It is this tradition of craftsmanship that Jonathan Weiss, the head of Oswalds Mill Audio (OMA), seeks to revive at his 42,000 square-foot factory which is located next to the old Fleetwood Auto Body company. Over the past decade or so, OMA has become a prominent player in the high end with its loudspeakers and tubed equipment. Indeed, in an attempt to expand his offerings, Weiss recently founded a division of OMA called Fleetwood Sound Company that purveys somewhat less costly gear.

When I drove to Fleetwood to visit OMA this summer, I was somewhat abashed at failing to arrive in a vintage Cadillac, but Weiss forgave me my transgression. Like the Pennsylvania Dutch, Weiss' gaze is mostly fixed upon the past. As far as Weiss is concerned, much, if not everything, that you've been told or learned about high-end audio is mistaken. Not for him dynamic loudspeakers, solid-state amplification, or belt-drive turntables. "No one has ever improved upon the violin makers of Cremona over 300 years ago," Weiss has written in his history of OMA, "and the same can be said for the professional audio equipment made for cinemas and studio since the 1930s through the 1950s." As Weiss sees it, audio has experienced an expulsion from paradise, and he points to a specific culprit, telling me that "Harry Pearson is largely to blame for the disaster that is high-end audio today."

Weiss is not the only audio manufacturer to make the case for horns and tubes, but his ardor for them surpasses anything I've witnessed. It all began when a 14-year-old Weiss began working at the Mann Bruin theater in Westwood, Los Angeles, where he was entranced by the power of its horn-loaded loudspeakers. Listening to the soundtrack from *American Gigolo* was his eureka moment. "They just sounded better," says Weiss. Weiss went on to study at Princeton and London School of Economics before becoming a filmmaker—in 1998 his movie, *The Atrocity Exhibition*, based on a novel by the science fiction writer J.G. Ballard, appeared. But the audio bug never left him. In 1997 he discovered an imposing four-story stone mill in eastern Pennsylvania. It was called Oswalds Mill and abandoned around 1900. Weiss has extensively renovated the mill, including installing knob-and-tube electrical wiring. In my spartan sleeping quarters on the second floor, I discovered a copy of the January 1954 issue of *Popular Mechanics* near the bedside with its cover alerting readers that "COLOR TV IS HERE."

Using this fortress as his base of operations, Weiss traveled around the state, discovering what he calls "a treasure trove" of audio equipment in old movie theaters. Weiss explains that he also "found the people that would educate me." Among them was one Hans Dietze,

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The Contros Digital Controller (foreground)
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Absolute Analog Oswalds Mill Audio K3 Turntable

Specs & Pricing

Drive System: Direct-drive, 18-pole, coreless-slotless, zero-cogging motor
Speed range: 33.3, 45, and 78rpm
Wow and flutter: Better than 0.01%, weighted
Tonearm: Supplied with Schröder tonearm
Weight: 285 lbs.
Price: $363,000 including Schröder tonearm, $409,000 with stand, and $460,000 with stand, OMA PD2 phonostage, and custom universal step-up transformer from Consolidated (all built into stand)

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an RCA cinema products engineer in Camden, New Jersey, who helped induct Weiss into the mysteries of older tube and loudspeaker designs.

Weiss founded OMA in 2006. In 2017, he purchased his factory, which is bursting at the seams with woodworking and vintage audio. It represents a nice marriage of past and present. Weiss, for example, recently purchased a new CNC machine manufactured in Germany to cut the horn loudspeaker cabinets that he produces from locally sourced wood. Weiss employs a process called torrefaction to age new wood, thereby improving its rigidity and sound quality. Any visit to the factory, however, is incomplete if it doesn't include a listening session to the gear that Weiss has amassed over the years. Weiss played a number of older loudspeakers for me in a separate building, including an RCA-LC1. Listening to his loudspeakers left an indelible impression.

I had first met Weiss several years earlier at his spacious loft in the Dumbo neighborhood of Brooklyn, where, among other things, I espied in his kitchen an original hand-operated Berkel meat slicer made in the 1910s. His loft functions as a showroom for his multifarious loudspeakers, including the flagship, four-way, conical-horn Imperia. On the Imperia, which I awarded a Golden Ear Award in 2021, piano and voice came about as close to a "you are there" moment as I've heard. Since then, I've followed the exploits of OMA quite closely. The company's activities have been profiled in a number of publications, including *The New York Times* and *Washington Post*, and in 2021 its Museum Speaker was featured in a show called "Anthem" at the Guggenheim Museum. But it is in the area of turntables that Weiss has now made, perhaps, his most ambitious efforts to pierce the musical sound barrier.

Enter the Oswalds Mill K3 direct-drive turntable. With its industrial look, form zealously follows function when it comes to the curvaceous K3. It was designed by a talented hydraulics engineer in New Zealand named Richard Krebs who has been intrigued by direct-drive designs for decades. Over a decade ago, Krebs designed a modification of the Technics SP-10 MK.II and MK.III motors and those of many other top Japanese direct-drive turntables, which Bill Thalmann, a gifted engineer and technician who lives in Virginia, implemented. After hearing a Thalmann-revised motor that was inserted into a slate base, Weiss was bowled over by the results. Eventually Weiss and Krebs decided to collaborate and design their own turntable from the ground up.

The tonearm, which is forged by selective laser-melt technology, was designed by Frank Schröder. It's a 3D-printed design manufactured from powdered metal. "You can't make that tonearm any other way," says Weiss. "The pieces of metal are uniquely sized." The counterweight is decoupled from the tonearm to avoid vibrations. "It's this large but open design with very little mass," Weiss says about the tonearm. "The energy is being dissipated as it moves, and it doesn't hit the counterweight. It's on a bayonet made out of bronze by a technician in Germany."

The aim of Weiss and Krebs was to emulate, as far as possible, a Neumann cutting lathe. For Weiss and Krebs, a belt-drive turntable represents an intolerable compromise, inducing a kind of slippage and imprecision in the rotation of the platter that cannot be adequately compensated for by a heavy platter. They argue that it's imperative to get it right from the beginning. Only a motor that directly drives the platter can ensure proper time-domain performance. The platter is oversized, another nod to cutting-lathe platters. "It has to be dynamically balanced," says Weiss. "I refused to do it

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unless Krebs actually did it. There is no platter in the world that is damped in that way. It's the same damping that's in the body of the turntable. The reason that there are plugs in the chassis is the same as in the platter and armboard. There are chambers filled with oil and particles." The platter also has special materials that are constrained-layer damped that were tested and devised over the course of a one-year project with Bucknell University.

Weiss also stresses that the high-torque motor and bearing of the K3 are unique. The motor is based around an 18-pole, zero-cogging, slotless design that employs an inverted bearing. "It's far more powerful than any motor ever used in a turntable," Weiss asserts. "It's cutting-lathe-motor powerful." The lining in the bearing sleeve is a proprietary high-tech material that was developed during the runup to Operation Desert Storm to avoid the need for lubrication. No oil is needed to run the bearing. The oil that is employed is used as a pre-drag. The power supply is tubed; it employs a Xenon rectifier tube that emits a purplish glow.

The skeptics (you know who you are) will argue that there is a cost to coupling the motor to the platter. That cost is what belt-drive seeks to reduce, which is the transmission of noise from motor to platter. Oswalds Mill has gone to extensive lengths to mitigate, if not abolish, vibrations and noise from both the turntable plinth and platter. A simple knuckle rap reveals that the cast-iron chassis, which was designed through finite-element analysis at Bucknell University, seems to be about as inert as it gets. One thing is for sure: At over 200 pounds, this critter is no easy lift. Hoisting it onto the custom OMA stand, which contains both a phonostage and power supply, was no easy task. When Weiss arrived, it took four of us to lug the 'table and stand into my basement, where it resided in front of my TechDAS Air Force Zero (a massive belt-drive turntable that, incidentally, embodies much of what Weiss disdains in high-end audio).

What does the K3 actually sound like? I ran the K3 with a variety of superlative cartridges, including the Swiss X-quisite ST, the DS Audio Grand Master Extreme, and the TechDAS TDC01 TI. No matter what cartridge I employed, however, the K3's qualities came through. It operates as a true transcription machine, decoding the vinyl with an unparalleled precision, punch, and clarity. Watching the tonearm travel—no, glide—across the surface of the record, you have the feeling that it is seamlessly and effortlessly excavating the grooves. There is no hint of fuss or muss. Instead, it essentially declares, "May the source be with you." The K3 marks another step, and not a small one, toward unveiling musical truth. There is no denying that the lucidity of the K3 brings you closer to—

dare I say it?—the absolute sound.

Right out of the gate, the exactitude of the K3 was immediately apparent when coupled with the darTZeel NHB-18NS preamplifier and 468 monoblock amplifiers into the Wilson Audio WAMM Master Chronosonic loudspeakers. The Wilsons throw up an enormous soundstage and are quite revealing. What they revealed was the ability of the K3 to nail the initial transient with a fidelity that almost surpasses description. Consider vocals. One recording that I've cottoned to in recent months is the Mobile Fidelity half-speed-mastering release of Nat King Cole singing with the pianist George Shearing. Particularly standouts on that album are "September Song" and "Pick Yourself Up." The K3 made it a snap to follow the subtle vocal shifts in intonation and vibrato that Cole imparted to them. Any hint of murkiness, blur, or smear was banished as Cole's rich baritone was reproduced by the WAMMs.

It operates as a true transcription machine, decoding the vinyl with an unparalleled precision, punch, and clarity.

Another favorite of mine is the venerable album *We Came to Play* by the Philadelphia-based *a cappella* group The Persuasions, which I was introduced to by the late A.J. Conti, the founder of Basis Audio. On the songs "Gypsy Woman" and "Don't Why I Love You," the crooning chorus was rendered with exceptional control and ease, even as lead singer Jerry Lawson enunciated many of the stanzas.

The K3 was no less meticulous when playing back guitar solos. One glorious album that Weiss introduced me to was a performance by Larry Coryell on a Japanese pressing of Rimsky Korsakov's *Scheherazade* that offers a fireworks of virtuosity. Needless to say, the K3 tracked Coryell's vertiginous feats unerringly. Ditto for Kazuhito Yamashita's performance of Benjamin Britten's *Nocturnal*, an RCA direct-to-disc LP that was recorded in 1978 at the Ginza Yamaha Hall in Tokyo. The OMA 'table nailed the most intricate passages without any lapse in pitch fidelity. Put otherwise, there was no obliquity to the sound but, rather, a pleasing sonority and heft to each note that created the sensation of a live performance. Similarly, the K3 did a superb job on a Soundstream digital recording of conveying the lilting sound of the trumpeter Rolf Smedvig playing Telemann sonatas together with Sherman Walt on bassoon and Joyce Lindorff on harpsichord.

What accounts for the precision of the 'table? Weiss and Krebs point to the inherent drag that exists with a belt-drive turntable when it has to power through a complex orchestral passage, one dense with brass crescendos and string sections playing at full

tilt. The result is a subliminal time misalignment that the ear interprets as sonic confusion.

Another characteristic of the K3, therefore, is its ability to deliver a dynamic wallop that seemingly emerges from out of nowhere. On a Decca LP featuring Claudio Abbado conducting the London Symphony Orchestra on Prokofiev's "Classical" Symphony (which he composed in 1917 on the eve of the Russian revolution), I was smitten by the ability of the K3 to, in essence, go from 0–60 mph in an instant, offering a sense of visceral musical excitement when the orchestra suddenly burst into full glory then subsided an instant later into minute and graceful *pianissimo* string passages. The bassoon work in the second *larghetto* movement was exemplary, not to mention the sense of hall space. But once again, it was the whiplash speed of the orchestra that really captured my attention. The sense of playfulness and exuberance that the K3 provides was also apparent on a Living Stereo recording of Schubert's Symphony in C Major "The Great" with Charles Munch conducting the Boston Symphony. On this oldie but goodie, the K3's propulsive drive was all to the good, and there was plenty of greatness to be heard and savored, not least as the brass roared to life, driving the orchestral climaxes with brio.

Lest you think I spend all my time listening to classical war horses, I hasten to note that I played a number of jazz LPs on the K3, including one that I recently acquired, a recording of Zoot Sims on Famous Door Records playing with Hank Jones, Louis Bellson, Grady Tate, and Milt Hinton, an all-star lineup if there ever was one. The immaculate character of the K3 was abundantly in evidence as it offered sharply defined renditions of Sims' playing on tunes such as "Do Nothing Till You Hear From Me" and "Alabamy Home." Particularly noteworthy, as it were, was the filigreed brushwork on drums and the firm pitch center of Sims' tenor and soprano saxophones. The K3 simply never wavers or falters when it comes to pitch definition.

This applies not simply to the treble or midrange but also the bass region. Bass is, of course, the most treacherous element in any stereo. On the Zoot Sims LP, I was most taken not simply by the pitch definition of the bass but also its alacrity. The same thing went for the extremely dynamic Verve LP of Jimmy Smith's well-known album *Root Down*. Each instrument was in its own air pocket, the congas, drums, bass, guitar, and Smith's Hammond B3 organ in peaceful coexistence, uniting to former a larger musical whole. The bass line was deep, taut, and refulgent, the best that I have heard from this album. As it happens, I listened to the Smith recording on the new Avantgarde Trio G3 loudspeakers (which arrived from Germany for review late into my auditioning of the K3), driven by the BWS SE-6384 monoblock amplifiers which output 8 watts. The high-resolution Avantgardes highlighted the dynamism and clarity of the K3, allowing me additional insight into its prowess.

While I thought that the K3 might lack just a bit of bottom-end punch on the Wilson WAMM due to the Schröder tonearm, I didn't have this feeling when I employed the 'table with the Avantgardes. My TAS colleague Michael Fremer, who purchased the prototype of the K3 turntable and who has a cost-no-object system, also employs the SAT tonearm on the rear position and believes that it delivers greater bass slam and extension, while displaying the 'table's outstanding freedom from bottom-end smear. Indeed, Fremer averred to me that the K3 is "the best 'table I've heard in my system to date." Then there was my son Oscar who strolled into my listening room one fine afternoon, cocked his head, and observed "it sounds clearer." He paused. "Oh, it's because you have the OMA playing. That's the turntable to get." Anyone searching for the ultimate in uncolored, truthful sound is likely to agree.

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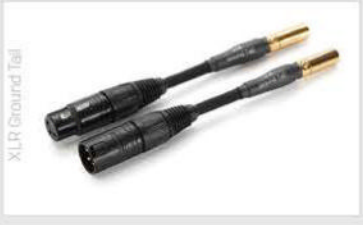

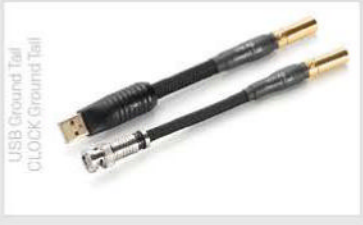

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Ortofon Synergy G SPU Phono Pickup and ST-80 SE Transformer

A Tale of Two Cartridges

Paul Seydor

In Issue 337, I reviewed the new Thorens TD 124 DD direct-drive turntable, a revised, re-engineered, and updated version of the classic idler-driven TD 124, one of the most highly regarded tables in the history of audio. As part of the product's launch, Thorens CEO Gunter Kürten wanted to offer consumers the option of an all-in-one, plug-n-play combination with table, tonearm, and phono pickup that would answer the not always congruent demands for a record-playing ensemble that is at once true vintage and true high end. Kürten arranged with Ortofon to market that company's Synergy G pickup, part of its classic SPU line (the acronym stands for *S*tereo *P*ick *U*p), under the Thorens brand as the SPU TD 124 Phono Pickup. It can be purchased with the 124 DD (the price of the pickup added to the turntable) or separately. Focal-Naim, Thorens's North American importer, had no 124 SPUs available for me, but Ortofon of America generously sent a sample of the Synergy G, which I intended to evaluate in a sidebar to the TD 124 review. Then, just as I was about to send the Thorens 124 DD review off, Kürten sent me an SPU TD 124. As it was too late to evaluate it for inclusion in that review, our editor Robert Harley and I decided to hold off any comments on the Synergy G until I had time to compare it to the Thorens equivalent.

Although the basic SPU design is over 60 years old, Ortofon keeps it current in several different versions, all carrying the SPU moniker, because it remains extremely popular with that segment of the market that continues to love and use vintage Thorens, Garrard, and EMT turntables, SME's classic 3009 or 3012 arms, tube gear by the likes of McIntosh and Quad, and speakers such as Quad ESLs, horns from Altec, JBL, and Klipsch, LS3/5as, and several other BBC-derived models from the likes of Spendor, Harbeth, Stirling Broadcast, and Graham Audio. I am familiar with much of this gear, but despite having reviewed several Ortofons for TAS over the past 20 years, I'd never crossed paths with any of its SPU models.

Like all SPU models, the G is supplied already integrated into the classic Ortofon headshell with universal SME connector.

The Synergy G was an apposite choice. Like the 124 DD itself, it retains the vintage look, basic sound, and some of the technology of the original while being judiciously brought up to date in key areas. A nude elliptical stylus replaces the original conical stylus; reduced in mass, it's claimed to track better than many SPU models, at a recommended tracking force of 3.5 grams, though the specified range is 3-4 grams. These figures are scarily high for those used to modern tracking weights below, often *well* below, 3 grams, but I have a close friend, an audio industry professional, who during the last 60 years and longer has built a library of more than seven thousand extremely well-preserved LPs, which he's been playing mostly with properly mounted vintage SPUs and Denons tracking at those forces (occasionally higher). I've been a guest at his place for several serious listening sessions where I've heard absolutely *no* audible evidence of increased wear (this man takes scrupulous care of his records and is exacting when it comes to pickup installation and setup). Ortofon also revised the generator system to raise the output to 0.5mV, "relaxing," as, the company's literature puts it, "the requirement for high gain transformer or active preamplification systems." (More on this later.)

Like all SPU models, the G is supplied already integrated into the classic Ortofon headshell with universal SME connector (this connector was, in fact, invented by Ortofon, but

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Ortofon Synergy G SPU Phono Pickup
Output: 0.5mV
Frequency response: 20Hz–20kHz ±2dB
Stylus: Nude elliptical
Tracking force: 3.5g (recommended)
Internal impedance: 2 ohms
Recommended load impedance: 10–50 ohms
Price: $2429

ST-80 SE Transformer
Recommended cartridge impedance: <10
Gain: 27dB at 1kHz
Frequency response: 10Hz–100kHz +0.5dB/-2.5dB
Dimensions: 6" x 3.93" x 3.74"
Weight: 3 lbs.
Price: $2199

Thorens SPU TD 124 Phono Pickup
Specifications: Same as Ortofon Synergy G
Price: $2899

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early adopters attributed it to SME—a mistake that has long since hardened into "fact"). Pickup and headshell combined weigh in at a hefty 28 grams. Thorens supplies two counterweights with the TD 124 DD's arm, the heavier one specifically for balancing Ortofon SPUs. Together with a compliance of 8µm/mN, this mandates arms of at least medium and higher mass and removable universal headshells. Most of the evaluations were carried out with the Thorens table and arm, but I also pressed into service Luxman's PD-151 with its integrated Jelco arm and SME's new M2-12R (an updated version of its classic 3012 arm, review forthcoming); my friend referenced earlier uses a Schick 12-inch arm.

Before getting to the sound, some things you need to know if you're tempted by Ortofon SPUs. First, to my knowledge, these pickups are not available apart from the headshell into which they are integrated, and the pickup itself is *not* user removable from the headshell. Second, needless to say (but I'm saying it anyhow), this makes the G unusable with fixed-headshell arms—the business end of the arm *must* terminate in the universal SME-style headshell. Third, you need to make sure the counterweight of your arm is heavy enough to balance the G so that you can achieve a sufficient tracking weight of at least 4 grams. This was possible with the Luxman's Jelco but only with the counterweight positioned nearly out to the end of the shaft (SME arms supply an auxiliary counterweight specifically for SPUs). Fourth, as noted, the SPUs are not only fixed in their headshells, but they also cannot be adjusted within the headshell for overhang or offset. Unless you're using an SME or an arm with an SME-style sliding base (e.g., GrooveMaster), you're stuck with whatever overhang and offset the length of your arm as installed allows. Thorens designed the arm on the 124 DD for correct overhang and offset of SPUs and supplies a slotted headshell for other pickups. Owing to its adjustable base, the SME easily accommodated the SPU. As for the Luxman Jelco, despite the adjustment restrictions, I got really excellent performance from the Synergy G.

After I broke the G in for about 50 hours and began listening in earnest, it didn't take long to hear why SPUs have developed such a fierce loyalty that remains intact and growing over six decades since the first one was introduced and why the company keeps developing new variants while retaining the original. (Google "sounds and flavors of Ortofon SPU" for an interesting survey, with thumbnail descriptions of the sound of several past and current SPUs.) My goodness, this is one seductive pickup, with rich, saturated colors, variegated textures, and life and liveliness to burn. It's got a prodigious bottom end of considerable power, definition, and articulation, which I noticed right away from Ray Brown's bass on Sonny Rollins' *Way Out West* (Analogue Productions remastering) or the powerful double basses which open Liszt's *Hungarian Rhapsody No. 2* on Stokowski's sensational *Rhapsodies* album (Analogue Productions 33-rpm remastering). The whole lower midrange up to the bottom of the presence region is luxuriously warm and musical, while voices and instruments have almost preternatural body and dimensionality. Indeed, several persons in my listening group remarked how *grounded* the presentation of this pickup is. Of course, putting it that way is not to suggest any deficiency in detail retrieval or resolution. It retrieved everything from the sources I typically use to evaluate such things, but without spotlighting or glare, instead judiciously, evenhandedly.

Vocal recordings of popular music, jazz, and folk from the fifties and sixties are made for this pickup. As I write this, I am listening to Sinatra's *Songs for Swingin' Lovers* (vintage Capitol) and can barely concentrate on the task at hand, so captivating is the presentation. Modern recordings are equally rewarding, whether it's the big band of Lyn Stanley's *Novel Noel* (A.T. Music), the varied ensemble of Jacintha's *Fire and Rain* (Groove Note), or the intimacy of the new one-step of Patricia Barber's *Nightclub* (Impex). Each of these boasts different but demonstration-calibre sonics of extraordinary presence, transparency, and dynamic range. It took no time at all to realize how easy it would be to become addicted to sound like this, nor have I grown tired of it over time, as can sometimes happen with "flavored" components that are

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With a Gundry-like dip throughout the presence region, I freely grant it's neither flat nor neutral. Like most moving coils from the early days—to my ears, classic Denons are a rare exception—it's a little pushed back in the presence region, which tends to accentuate depth in a way that can be rather appealing, e.g., the offstage brass at the opening of Mahler's First Symphony in the powerful new vinyl-only remastering of Bernstein's DG recording (my TAS review will have been published by now). Beyond the presence region as we get into the highs, the response comes back up and then some, so it's a little bright, an effect I found mostly unobjectionable except on recordings where orchestral strings and trumpets may already be too bright if too closely miked or if the mikes themselves (or the EQ) are bright. The Bernstein Mahler furnishes another example: with the Synergy G I much enjoyed the more distantly miked Concertgebouw recordings; when the venue switched to the New York Philharmonic and Avery Fisher Hall (since 2014 David Geffen Hall), the acoustics drier and the miking closer, I preferred my Denon 103 or Shure V15xMr owing to the more judicious balance between the presence region and the top end.

That said, when it comes to music with lots of high percussion, like jazz, I found all that life and vitality, that definition and clarity which derive from the high-frequency extension, plus the way it allows these instruments to bite the ear gently, really scintillating, not to say musically valid. The Synergy G did a sensational job on the sonically sensational new *West Side Story* soundtrack (see TAS 327), notably the searingly hot Prologue with all its finger snaps, snares, drums, maracas, and other assorted percussion, not to mention those distant whistles. Likewise, the amount of air and atmosphere it reproduces reaps truly wonderful rewards in recordings that capture the sounds of spaces with richly reverberant acoustics, like churches, cathedrals, and other large venues. Just listen to any of the beautifully recorded Joel Cohen Christmas records on Nonesuch (*Sing We Noel* especially), which are bathed in church-like ambience. Meanwhile, *Belafonte at Carnegie Hall*, which I haven't pulled out in years, was a real hoot when the whole audience rocks along in "Matilda."

The Synergy also displayed outstanding drive, timing, togetherness, and, once again, that elusive ability to make the music come alive with the life, vitality, and dimensionality of the real thing. At 3.5 grams, tracking is for the most part excellent, though with a few of my most difficult records—densely scored orchestral passages, intensely modulated pressings (the police whistle that halts the Prologue in that *West Side Story*), hot sibilants—you do realize that current Ortofon non-SPU and other mc's have advanced a considerable distance over their brethren of yore. (In fairness I should add that many contemporary pickups also come a cropper with some of these recordings.)

Ortofon obligingly sent along its top-of-the-line ST-80 SE step-up transformer, which proved a superb match. Classic SPUs are a bit notorious for their very low signal output, but between the Synergy's 0.5mV output, higher than other SPUs, and the windings on the transformer, it was possible to get a lot of loudness with what I'd consider (subjectively speaking) state-of-the-art signal-to-noise ratio and background blackness. Taking Ortofon's claims at their word, one of the reasons Thorens chose the Synergy for the 124 DD was the claim it could bypass step-up devices. Hmmm—well… sure, *if* you have a quiet enough phonostage, which I do in my McIntosh C53, the Musical Surroundings Phenomena 3, and the visiting NAD 399, with any one of which I could certainly get levels fearsomely loud enough with little or no intrusive noise. *But*—I'd have to lie to say I liked what I heard. Running mc's wide-open leaves the very high-frequency resonances endemic to them all completely undamped. In the case of the Synergy G, all the warmth, richness, solidity, and body I heard through the transformer—or through the C53 properly loaded—was gone or seriously diminished: in other words, virtually everything I really *like* about the pickup, replaced by a thin, edgy, bright, vaguely "ringing" presentation that was not only not pleasant but with many sources positively irritating. Any potential improvement in transparency, tiny at best, from eliminating the step-up devices was nowhere near worth the trade-off in warmth and musicality, nor was the slight increase in dynamic range, not least because a correctly terminated Synergy G needs no gilding in these areas.

If the ST-80 SE at $2199 stretches your budget too much, rest assured that something as modest as my trusty, and quite excellent, Quicksilver transformer ($600) will let you hear just how beautifully this SPU can sing. There is also Ortofon's entry-level ST-7 ($679), which I've not heard but I'll wager is pretty good (it garners excellent user consumer reviews online). All the same, the 80 SE is a mighty persuasive piece of kit: dual-mono, magnetically shielded, solid, substantial, beautifully made, sonically transparent, and aesthetically

striking (it's about the coolest looking step-up device I've ever seen). The chassis also has some weight to it, so that stiff and/or heavy interconnects tend not to push or pull it around.

I ran the Synergy G into the mc stage of my McIntosh C53 preamplifier and also the aforementioned Phenomena 3, both with appropriate loading and excellent results. But I must grant the argument of those vintage mavens who insist moving coils, particularly vintage ones, are just plain better with transformers. There is a musicality, an organicism, a smoothness, and a certain unfettered, wholly natural dynamism that no active setup can quite match—at least with this pickup and my favorite Denons.

If you already have a modern phono pickup or two you like but want a change of pace or an alternative a la vintage, the Synergy G might just be the push you're looking for. As high-end mc's go in this day and age, its price is far from outlandish, and if it's hardly the last word in sonic neutrality and flat frequency response, so what? Many, if not most phono pickups are not *echt* neutral. And keep in mind that at the end of the day, when all the testing and evaluating are over, much of the time even we reviewers have been known to elect beauty over truth in our pursuit of something we just love *listening* to, that pleases, engages our senses, and draws us into the music, provided of course the deviations from neutrality are not gross or noxious.

In those terms, the Synergy G certainly merits serious attention not in spite of but *because of* its seductively romantic, splendidly musical, and generously warm, colorful, and inviting sonic personality. During the review period, there were many times at the end of a listening session or a stressful day when I switched back to it after something else just because its particular style of beautiful musicmaking was precisely the tonic I needed.

As regards pricing, Focal-Naim's retail for the SPU TD 124 is $429 more than the otherwise identical Ortofon version. As the North American distributor for Thorens, they are a middle person, which in effect makes them a middle person once removed when it comes to the SPU TD 124 versus the Synergy G. As such, they can't be expected to handle for free acquisition, import, distribution, delivery, and all the other effort and expenses involved in marketing audio products. Perhaps Thorens and Focal-Naim between them can sharpen their pencils enough to give North American consumers a special package-price when the pickup and table/arm are purchased together. Otherwise, if you're interested in that combination—and as I hope I've conveyed, it's a really wonderfully attractive synergy—buy the pickup directly from Ortofon.

Do I need to point out that the Synergy G and the 124 SPU are sonically identical? They are, indistinguishably so.

SOTA Quasar Full Eclipse Package with the SOTA Pyxi Phonostage

Simplicity and Performance

Drew Kalbach

Ever since I was a young lad first foraging like a hunter-gatherer through eBay listings for a reasonably priced receiver with the pretty wood sides and the big silver faceplate, I've wanted to try a SOTA. Something about that classic styling, about that wood grain, just gets me. I'm a simple man. SOTA started back in 1979, moved to Chicago in 2018, morphed into SOTA Sound Inventions, which means it has direct access to a full machine and wood shop and is now pumping out new decks. The Quasar ($2995 base price; reviewed here with the full Eclipse package, including tonearm, cartridge, dust cover, and Roadrunner tachometer at $3670) is the top of its Urban Series, meant to be the entry-level audiophile line. SOTA also sent along its Pyxi phonostage ($300), a compact and nice-looking piece of gear, which basically completes the vinyl life cycle.

I'm a sucker for the vintage look. If you hate me a little bit for that last sentence, that's okay. I will be your avatar for all things awful, but please don't take it out on the Quasar. This turntable is gorgeous—its plinth is made from MDF wrapped in 2¼"-thick American walnut with shiny brass feet and a 1½"-thick acrylic platter. The wood look evokes those ancient decks of yore, the ones that many budding audiophiles drool over. The feet are brass spikes with little padded cups for extra isolation, and they're brainlessly simple to adjust. The tonearm, which my package included, is a Rega 330 with a pre-mounted Audio Technica VM750SH cartridge. Again, brainlessly simple—my favorite kind of simple—and they even had the tracking force pre-set. The stock machine does not include a tonearm or cartridge, but the Quasar can accommodate a variety of arms from SME, Origin Live, Audiomod, and others. It uses a 3-phase AC synchronous motor with the Condor speed box for precision control. My Eclipse package included the Roadrunner tachometer, which connects to the Condor and allows for automatic fine adjustment of speed, about which I'll have more to say later. Overall, it's a beautiful deck replete with functional and impressive technology, yet still retaining a simple, well-designed silhouette.

Overall, it's a beautiful deck with some functional and impressive technology, while still retaining a simple, well-designed silhouette.

Then there's the Pyxi phonostage rounding out the system. The Pyxi is a compact unit with rounded ends, more like a flattened oval than a box. It has a simple power switch and an mm/mc selector on the front, with plugs and loading dipswitches on the back. SOTA describes it as having "ultra-low distortion" and "total neutrality," or at least those were their goals, working in tandem with designer Wyn Palmer. I'll admit, I was fond of this device from the outset, thanks to that price point. Nothing brings me joy like an affordable piece of truly high-end gear with lots of flexibility, and that's exactly what the Pyxi appeared to be. It offers a wide range of loading options, meaning it'll function well with most moving-coil cartridges alongside the standard moving-magnet defaults. Moving-coil gain is fixed at 65dB, mm gain at 45dB.

Setup was straightforward. It helps that the Quasar came with tonearm set and cartridge mounted, which takes care of the majority of the fiddling; those that opt to purchase the base unit *sans* cartridge and arm probably know what they're doing already and are aware they are in for some extra steps. The deck came well-packed in multiple layers of Styrofoam and bubble wrap, and after a

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Drive system: Eclipse Condor PSU with Roadrunner
Speeds: 33.3, 45, 78rpm (available in PSU)
Wow and flutter: 0.05
Dimensions: 18.25" x 2.375" x 4.25"
Weight: 24 lbs.
Price: Quasar Base Price: $2995 (as reviewed: Rega 330 tonearm, AT-0C9XSL cartridge +$1424 to base price); SOTA Pyxi Phonostage: $300

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bit of finagling, it was as simple as attaching the spikes, placing the cups on my rack, and getting the turntable leveled. After that, I had to get the Condor and the Roadrunner working, which, again, was easy thanks to SOTA's well-detailed instructions. I found this part of the table fascinating: The Condor is the speed box, and the Roadrunner is the tachometer, which detects platter speed using a tiny magnet on the underside of the platter and adjusts the Condor to get as close to 33.33 rpm as possible. The display on the Roadrunner shows a constantly fluctuating representation of how fast the music's moving, usually within ±0.005rpm accuracy based on my very scientific "watching the numbers change" method of testing. Actually, I spent a lot of time staring at those numbers, wondering if I could hear the teeny-tiny changes in speed, wondering if that piano was out of tune or if the speed was simply off by some absurdly small order of magnitude, and after a while I tumbled into delirium. Fortunately, I saved myself by, you know, not looking at it anymore, because in reality, the Quasar's about as rock-solid steady as it gets. More on that shortly.

All that said, with the Roadrunner and the Condor installed, I managed to get the Quasar spinning and spinning well. The motor has a soft-start function, which SOTA claims helps to increase belt longevity, which makes sense, though I won't have this deck long enough to confirm. I can say that it gets to speed quickly, and once the Roadrunner dials everything into place, it stays locked in admirably well. I did notice that a record brush slows everything down considerably, which was a minor annoyance. Switching between 33 and 45 was simple, just a button-push, no belt-movements required. However, the little button on the Condor was very sticky; again, extremely minor, but I noticed. Like the Quasar, the Pyxi was very simple to set up, since the pre-installed cartridge was an mm and worked great on the defaults. I also tested the Pyxi with my normal system and with my typical Zu Denon-103 mc cartridge. My listening notes for the system as a whole apply to the Pyxi in general, but to spoil things, I'd agree with SOTA's assessment. I found the Pyxi had a very low noise floor, an overall neutral tone, and felt it sounded as good or better than phonostages costing twice as much or more. In effect, the Pyxi disappeared and allowed everything else to shine.

I found the Pyxi had a very low noise floor, an overall neutral tone, and felt it sounded as good or better than phonostages costing twice as much or more.

All right, that stuff out of the way, down to the dirty business of actually listening to music. I started with Rudolph Johnson's *Spring Rain*, part of the Black Jazz Records reissue series. Johnson has one of the most unusual and engaging tones out there, and I loved the way the Pyxi/Quasar system kept that strange combination of both silken smooth and slightly edgy sharpness in focus. There was nothing muddy or uncertain about the Quasar as it chugged along at an incredibly steady rate—according to the Roadrunner, anyway—and it felt like the deck was completely locked in. Nothing distracted from that tone, which was truly the star of the record. Meanwhile, drums were tight, the rhythm remained solid and plugged-in, which again is a testament to the Quasar's fascinating set of technological improvements in the on-the-fly adjustments from the Roadrunner. Those little changes in speed were impossible to hear specifically; instead, they resulted in a rock-solid pace. Jazz flourishes under steady pacing, and the full band sounded tight with good layers of soundstage depth. That iron pacing was a huge pleasure throughout my time listening to the SOTA. I sifted through a ton of different jazz, throwing pretty much whatever came to hand at the deck, and it never once lost that fantastic stability.

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Next up, I put a little Steely Dan on the deck. *Katy Lied* is my favorite of the Steelies, and the SOTA had me grooving from the start. Holy rhythm, I was completely hooked. Nothing like a bedrock-solid backbeat to get me completely engaged in the music. Especially on "Doctor Wu," that bass and drum combo had me nodding along as the slow verse swelled into that big chorus. And it's no small thing to note that "Doctor Wu" is crammed onto the inner grooves of the record. I noticed little to no distortion, a testament to the tracking ability of the tonearm and the cartridge, but also the stability of the deck itself. The sax solo, when it broke out like a stampede, soared, dipped, screamed, and sound fantastic—played by the immortal Phil Woods, by the way. Overall, the SOTA performed admirably, keeping everything in focus, tight and on-beat.

I decided to finish up with a genre I don't write about a whole ton. Blind Guardian's brand of fantasy-novel-inspired metal is my jam, and I wanted to see how the SOTA handled some sick shredding. The group's concept-album *Nightfall in Middle-Earth* is one of those masterpieces I'll always love, from the cheesy DND-style cover art to the messy battle noise that begins the record. The opening song "Into the Storm" slams those kicks so hard it feels like my office is in the middle of Mordor—but just like the jazz and the yacht rock, rhythm and pacing are key to bringing symphonic power metal to life. Grand scale defines everything on this track, from the shouted chorus that sounds like an entire choir's belting the lyrics from an earthworks rampart to the synths droning over ripping guitar solos. The SOTA kept everything in focus and never let the sheer weight of all that music sounds too messy or overwrought. Later on, during my favorite track on the record, "Nightfall," the layers of voices remain distinct from each other, creating a wave of sound which grows throughout until that first chorus hits hard. It's probably obvious, but I had a lot of fun with this record, and the SOTA's to blame—the neutral Pyxi allowing the music to shine, the deck keeping up that solid pacing, and even the great tracking from the tonearm/cartridge combo.

There was a lot to love about the Quasar. Its simplicity was the star here: Solid components on a beautiful base with a little touch of technological speed stability all added up to a deck that performed beautifully. This was the turntable I'd always wanted to try out from SOTA, and I'll admit that the Quasar lived up to the hype. Any analog enthusiast looking for a first deck or a last deck—though don't forget about SOTA's trade-in program—should absolutely turn toward the Quasar.

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MoFi SourcePoint 8 Loudspeaker

Coincidentally Speaking

Neil Gader

A couple years ago I received an invitation from Mo-Fi's chief loudspeaker designer, the ever-cordial Andrew Jones, to visit a newly acquired space that was in the process of becoming MoFi's design facility in Los Angeles, only a few short miles from where I live. I'm always interested to see and hear what Jones is up to; so, with little prompting, I accepted. Still in the throes of unpacking boxes and arranging furnishings, Jones guided me through the large space and described the plans for its completion. I also took a walkaround and had a brief listening session with a near-final version of what would become the SourcePoint10 ($3999 w/stands). Jones was still putting the boxy, two-way coaxial prototype through its paces, listening and tweaking, tweaking and listening. He dubbed it very close to complete but still hadn't settled on its final voicing. Nonetheless, I was impressed by what I heard and the value it seemingly represented. I expressed interest in reviewing it, but Jones had some reservations. It's an imposing hunk of loudspeaker as stand-mount models go, and whether this 10"-woofered number would be allowed to fully strut its stuff or reveal its sonic capabilities in my smallish LA listening room was clearly on Jones' mind. (Dick Olsher ultimately got the nod for the review of SourcePoint10 in Issue 338.)

Needless to say, I don't recall Andrew Jones mentioning whether an 8" coincident version was even on the drawing board at that point. Later, I mused to myself, "Perhaps one day you'll have something in, maybe an eight?" I must've been caught thinking aloud because, sure enough, and in relatively short order, the 8"-woofer version appeared.

If you're only checking out the SourcePoint website and think you're seeing double, you're not alone. The two SourcePoints share the same retro "big-box" look, evocative of mid-20th-century audio. Both are outfitted with a single two-way coincident driver in a bass-reflex enclosure with dual ports venting from the rear. And, as Jones points out, the SP8 is literally *identical* in construction to the SP10, both externally and internally, but precisely reduced to 80% of the SP10's size. The numbers don't lie—the SourcePoint10 tips the scales at 46 pounds, stands 22.5" tall, and is about 14.5" in width. Compare that with the SP8, which is 28 pounds, 18" tall, and 11.4" in width. This makes for a considerably less intrusive silhouette and a smaller footprint tailored for smaller environs. Smaller, yes, but cabinet construction is still nothing less than robust. The top, bottom, and sides mirror the SP10 with 1"-thick MDF construction and heavy internal braces that further strengthen the cabinet. It's subtle, but the side panels have a slight curve which creates a non-parallel interior surface, helpful for reducing standing waves. The SourcePoint 8 uses a precision-sculpted baffle, a complex form with multiple facets to eliminate diffraction. Its nearly 2"-thick MDF, finished in a smooth satin black coating.

The reduction in cabinet volume means a slightly lower sensitivity figure of 87dB versus 91dB for the SP10. But with its benign impedance curve, the SP8 makes no outlandish demands on amplifiers. (To be fair, my reference integrated amp, the Aesthetix Mimas, has always demonstrated exemplary behavior and never sounds put upon under any circumstances.) The smaller woofer works a little harder in the tighter internal cabinet volume to produce the same amount of bass energy Ultimately, this raises its low-frequency cutoff point to 47Hz versus the SP10's 42Hz. But keep in

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Nominal impedance: 8 ohms (6.4 ohms minimum)
Sensitivity: 87dB, 2.83V/1m
Crossover frequency: 1.6kHz
Dimensions: 11.4" x 18" x 13.2" with grille
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mind that there is still perceivable extension on tap. Further, in most listening environments room gain usually gives the mid/bass a boost, as well.

Turning to the transducers, the SP8 boasts a custom-tooled 8" concentric driver and 1.25" soft-dome tweeter. It's a short-coil/long-gap design with the same motor structure as its bigger brother. In this instance, the woofer cone acts as a waveguide for the tweeter, maximizing the tweeter's efficiency and matching directivities. The coincident frame is flush-mounted, and the surround is a flatter profile, details designed to minimize diffraction.

MoFi also describes its innovative Twin-Drive high-flux neodymium magnet system as not only optimizing the woofer and tweeter's frequency response but also reducing distortion in the motor structure of the drive unit itself. By minimizing these distortions, the system generates few additional frequencies beyond the original signal. The SP8 literature says that "the Twin-Drive system creates a fully symmetrical magnetic field, resulting in extremely low intermodulation distortion." Translation: fewer colorations, more accurately reproduced music. The fabric-wrapped grilles attach magnetically, though MoFi recommends running the SP8s *sans* grilles for peak performance. Available in wood veneers of Satin Walnut, Satin Black Ash, or finished in Satin White. Kudos to MoFi for the top-notch 5-way binding posts that are provided.

Sonically, the SP8 has an upfront character with a hint of a romantic streak built into its rich, weighty midrange. It has the accent of a "bottom-up" rather than a "top-down" speaker, a fairly uncommon trait for a two-way compact with less than full-range bass. Thus, the SP8 conveys a gravitas that brings out the darker elements and emotions from cello and bass viol. And it doesn't confuse a violin with a viola. Because it reproduces chest resonances so well, bass-baritones like Bryn Terfel don't end up sounding like pure baritones, either. It has what I would call an instant likeability factor—a naturalism in the reproduction of music that suggests nothing quirky or off-putting in its behavior. It's not a passive sound, either, or one that "lays back" the upper mids or presence range to falsely imply dimensionality and ambience where none exists on the recording. This loudspeaker just seems to please the ear with its no-nonsense reproduction and authenticity to the musical source.

Putting the SP8 through its paces, one of the first things that I listened for was whether the inset wave-guided tweeter sounded exposed from the mid/bass cone or expressed any sort of "cupped-hand" shoutiness. I can report that it did not. With coax speakers of old, those kinds of colorations would be a dead, even disqualifying giveaway that couldn't be mitigated by placement or setup. That's not to say that the SourcePoint 8 isn't detail oriented. It is, but it doesn't hype detail at the expense of midrange transparency. This was especially important with vocalists. Regardless of range or gender, they were reproduced by the SP8 as coherent, of-a-piece images with a sibilance range that was held nicely in check. Sopranos sounded a little drier as they rose into their top octave, but an alto voice like Shelby Lynne's skewed slightly darker, more akin to the sound of my large three-way ATC SCM50s. A chorus of voices presents different challenges than a soloist, but during Rutter's *Requiem*, the SP8 commendably captured the micro-dynamic gradations of the large chorale's performance, right down to the individuals standing on the risers.

Bass response was forceful, controlled, and pitch accurate. The specifications states 47Hz as the low-extension limit, and that seemed accurate to my ear and my SPL meter. In my room, the SP8 rolled off precipitously below that figure. Orchestral bass is vastly more complex and harmonically dense than that on pop tracks. Nonetheless, during Anne-Sophie Mutter performance of the Tchaikovsky Violin Concerto in D major [SACD DG, Previn/LSO], the SP8 did a superior job of sorting out timbral distinctions and extending the bloom and sustain of the bass viols and tympani during crescendos.

Copland's *Fanfare for the Common Man* routinely challenges loudspeakers much larger than the SourcePoint (and amplifiers, too, for that matter), but the SP8 navigated the cascades of kettle drums and bass drum with confidence and only minor compression. The full breadth of a pipe organ was a little beyond its reach, but the low-end essentials were there (keeping in mind that music in the 40-cycle range is actually very deep to begin with). And, significantly, on a track like The Police's "Tea in the Sahara" from *Synchronicity*, there was little evidence of port anomalies or overhang, except at extreme levels. The port tuning bolstered the woofer appropriately but didn't bog down its responsiveness or create the sensation of doubling up output in narrow frequency bands. The purity of its reproduction of low-pitched bass was not quite as true when it was driven especially hard, but still commendable given the high output levels I was asking of it. There are limits, of course, as I found that typical rock kick drums, such as Stewart Copeland's kit during "Murder by Numbers," didn't release as much air on the pedal downstroke as actually exists.

With coincident drivers in general, I tend to have high hopes in terms of imaging and soundstaging. The SP8 proved a superb navigator of string and brass ensembles. Take, for example, the Cana-

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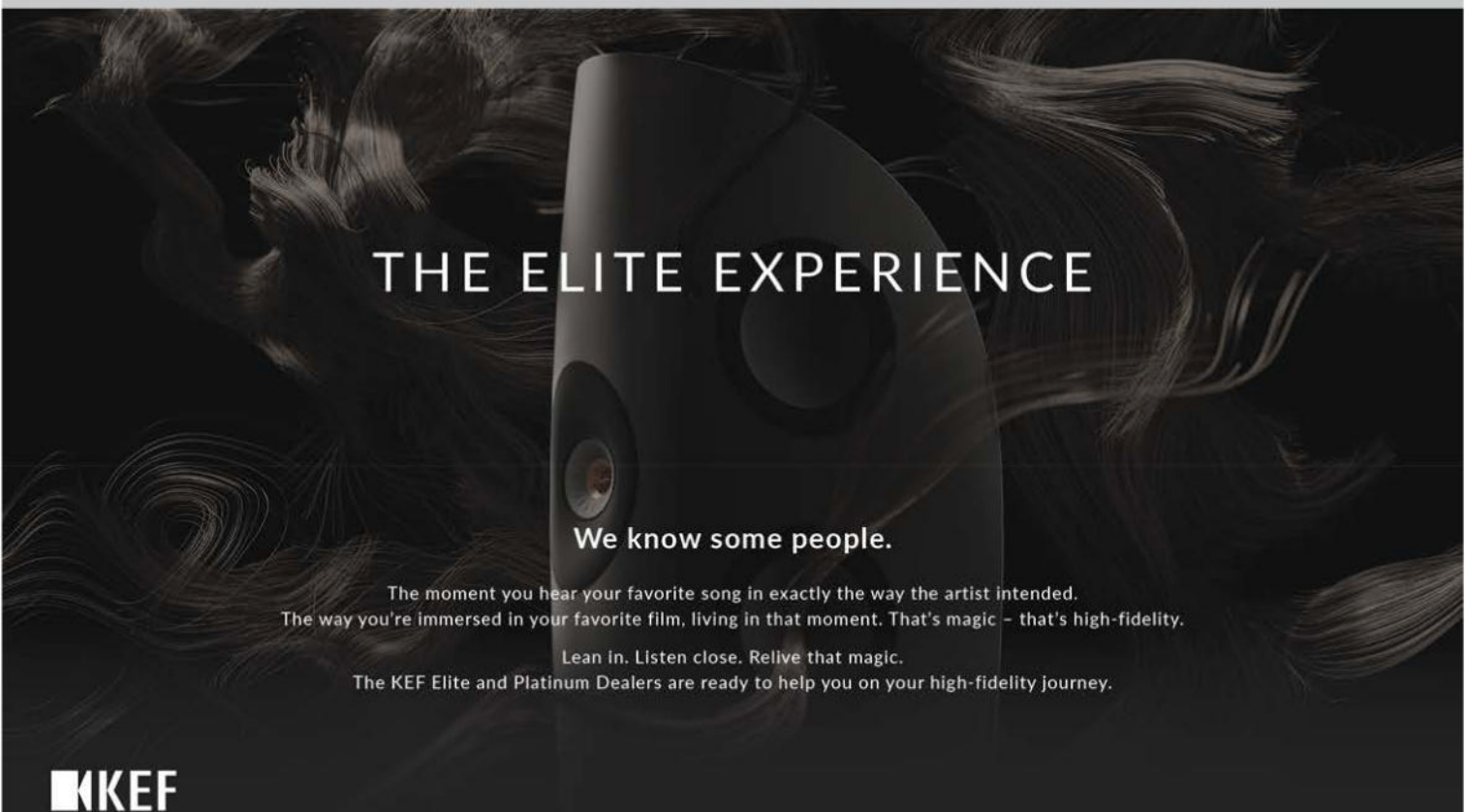

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dian Brass quintet (two trumpets, trombone, French horn, tuba) that accompanies Holly Cole in the "Briar and the Rose." Not only was image placement precise, so were the colorful timbral contrasts and transients rising atop the foundation of trombone and acoustic bass. Hand in hand with its ability to focus images was the SP8's knack of reproducing a realistic soundstage. A high point of my listening sessions was pulling out a favorite old SACD from Harry Connick, Jr., *We Are in Love*, and placing it on the tray of the dCS Puccini—the juxtaposition and spatiality of the standup bass, sax, and Connick were exemplary. I was taken with the sensation of how each player seemed to own the space they were in. They were that tangible.

Comparisons to an earlier Andrew Jones design, TAD's iconic stand-mount CR-1, are fraught with pitfalls. Even now, it might've been the best speaker ever to play in my room and represented a near-religious, state-of-the-art experience. Obviously, its price (currently $87,000/pr.) places it well out of the entry-level segment. In contrast, the SP8 is visually plain and uses conventional materials that are nothing like the exotic and costly TAD beryllium drivers and gleaming, double-walled, hand-finished cabinetry. So, no surprise that it can't match the TAD's extension and transparency at both extremes or its purity and top-end air and openness. But when I considered the overall tonal richness of the SP8's voicing, its low-end bloom, and remarkable imaging and soundstaging, there was more than just a hint of that old CR-1 magic in the SP8. Perhaps a fairer comparison was with my own resident ATC SCM20P compacts. At roughly twice the cost, and while no match for the SP8 bass dynamics, the ATCs had the sweeter more sonorous top end, portraying riper piano arpeggios and more effortless violin glissandos.

So where does SourcePoint go from here? If history is a judge, the indefatigable Jones and his MoFi team must have something planned. After all, the Soucepoint10 was scaled down successfully to create the SP8, so why not scale up? While it's pure conjecture on my part, I could see them taking these stand-mount efforts, retaining that top-notch coincident and going full-on, three-way floorstander by adding a dedicated woofer—an eight-, 10-, or even a 12-incher. As I said, pure conjecture…and yet?

Cutting to the chase, the SourcePoint 8 is, on any scale, a sonically satisfying and impressive loudspeaker. Flat out, it offers a lot of music for the money and can match sonics with many *much* pricier compacts. For most designers, the SP8 would represent a remarkable achievement. For Andrew Jones and his MoFi crew, it's just business as usual. And for audiophiles…my suggestion is to *run* not walk to audition perhaps the most satisfying compact I've heard all year.

Larsen Model 4.3 Loudspeaker

Unconventional Excellence

Robert E. Greene

The Larsen 4.3 is the least expensive path into the fascinating world of Larsen speakers. The intriguing nature of the Larsen's design has been discussed in detail in previous TAS reviews (see our website for reviews of the Model 6, 8, and 9). But it is worth recalling the general concepts here, which apply to the $2400 4.3 as well as to the larger models, because the Larsen approach, which goes back in effect to Stig Carlsson (with whom designer John Larsen worked back in the 1970s), is quite unusual.

To summarize, the Larsen speakers are designed to go up against the wall, so that the reflection from the wall behind the speaker and the direct sound of the speaker are in effect a unit. They also radiate in a wide pattern but are aimed at the listening position horizontally while the axis is tilted upwards. So, if they are placed on the long wall of the room especially, for a long time after the direct sound there is very little sound arriving at the listening position from the horizontal direction. The effect is something like a reflection-free zone (RFZ) room without the necessity of building one. The wide radiation also is intended to fill the room with a uniform distribution of sound energy. And it does do this! The imaging sweet spot always exists for any speaker, but the Larsen provides a surprisingly unvarying tonal balance as one moves around the room.

This is, of course, a quite different idea from conventional forward-radiating free-space-mounted boxes. But it has a naturalness of its own. Somewhat ln the manner of omnidirectional speakers like the MBLs or the electrostatic Muraudio Domain Omni, the Larsen fills the room with a soundfield of great uniformity. But they present, in another sense, a less diffuse sound since the entire back wave is eliminated.

This approach to sound reproduction in rooms is unusual, but it is not without precedent. As noted, Carlsson's speakers (e.g., the Sonabs) pursued similar principles, and the Allison speakers from long ago also aimed at wide radiation from a room-boundary location. The ideas have always had a unique appeal and still do.

The Larsen provides a surprisingly unvarying tonal balance as one moves around the room.

One of the strong points of this arrangement is that it couples the bass driver of the speaker to the room more effectively than a free-space speaker can do. Out in the room, the sound comes off the backwall with a time delay, and the resulting interference in effect attenuates the impact of the direct sound. Plus, free-space mounting reduces the speaker's bass coupling to the room compared to boundary-mounting. (Just try putting a free-space-mounted speaker up against a wall to see what happens.)

As a result, even a relatively small Larsen model like the 4.3 can offer surprising bass power and extension. And this really matters.

High-end audio people sometimes take "high end" to refer not just to price and quality but to frequency—they are worried about the upper end of the frequency spectrum. And, of course, the top treble does matter. But it is important to understand that middle C, the center of the piano, is 262Hz. In effect, half of music is below 250Hz as far as fundamentals go. And getting this lower half right is crucial, but it isn't given the attention it deserves. (Just have a look at in-room response graphs of speakers in the lower ranges—not reassuring.)

The bass-performance virtues of the Larsen designs are not just about power and extension in a given size. For reasons that are not entirely clear (to me) theoretically, the Larsen also has unusual bass precision and definition. If you go to an orchestral concert and sit reasonably close, one of the really striking things is the definition in the lower frequencies. The sound of a tuba, say, has a kind of precision and definition that one seldom hears from an audio system. And it is this type of sound that the Larsen in general and the 4.3 in particular can handle exceptionally well.

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Sensitivity: 87dB
Driver complement: 6" woofer. midrange, dome tweeter, both from SB
Impedance: 4 ohms
Power handing: 100 watts continuous
Crossover: 2800Hz
Weight: 11.5kg
Dimensions: 230mm x 735mm x 260mm
Price: $2400/pr.

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Why Larsen Sounds Different

The basic idea of the Larsen speakers (all of them) is quite different from that of "free-space monitors" or variations of them, where the speaker is supposed to radiate some sort of flat response in a forward direction and project some radiation (inevitably) in other directions, but the latter is supposed to be time-delayed enough that one is hearing primarily the direct sound, or at least the tonal effect of the direct sound. Of course, it's not possible to ensure the predominance of the direct sound, progressively so as the frequency descends. So, some sort of compromise has to be made in which the indirect sound doesn't affect the tonal character and imaging of the direct sound. This has led to various ideas of what the speaker radiation pattern should be. Box speakers out in the room are omni radiators in the bass, but further up in frequency they start to radiate primarily forward. So, the directivity increases as frequency goes up, and typically it continues to increase, even above the "baffle step" (where it shifts to primarily forward), gradually becoming more directional. Or at least one hopes for a gradual transition since abrupt changes may be a source of coloration. The whole thing is a bit *ad hoc*, although designers try hard to make it work well.

In the Larsen, the design objectives are more than a little bit different. First of all, because the backwall acts as a speaker baffle in effect, there is no baffle step—the speaker behaves as if its baffle were huge, as big as the wall, so that the sound is baffled over the whole frequency range—no baffle step, in effect. The low-frequency radiation pattern remains unchanged down to the point where the whole room is involved. Secondly, the Larsen designs set out to have less in the way of increasing directionality with rising frequency by having extra high-frequency radiation into the room but not on the direct-arrival axis, using the tilted midrange driver (and in some models a supplementary tweeter). The details can be found in the earlier reviews. But the overall effect is that the speaker fills the room with a more uniform sound than usual.

The Distinctive Larsen Sound

The Larsen designs have some clear advantages over ordinary box speakers, as indicated. But they also tend to have certain features, which while not serious problems in musical terms, give them a distinctive sound. These arise, first of all, because it is difficult to keep the acoustic loading by the backwall absolutely uniform with respect to frequency when the wavelengths involved become comparable to the distance of the driver to wall. In particular, they tend to develop a peak at 500–600Hz and sometimes a dip above that. In the case of the 4.3, the peak is there, and there is a dip at or just below 1kHz. The former is easily EQed out, if desired. The latter is not so easy to deal with, but it is narrow enough not to be too serious a problem. Still, if your main goal in audio life is an absolutely smooth and flat midrange, a flat nearfield monitor at close range would likely do a little better for you, at the cost of actually needing to be listened to at close range for best results.

While the filling in of power response using off-axis sound is not a source of the kind of aggression that an on-axis rise (whether in the interests of flat power or not) usually gives, there is still somewhat more energy in the room in the middle treble than one might be accustomed to (though not in the high treble). Again, a little EQ touch-up would fix this, if so desired (Larsen I think regards this as just correct, "ortho-acoustic" in Larsen terminology).

It should be emphasized, however, that the uniformity of sound in the room of the 4.3 generates a surprisingly effective replica of the kind of sound one actually hears in live music. This controversy has gone on forever and probably will continue to do so. But there is no denying that a uniform soundfield is a feature of live music in concert venues. Once you get used to this immersive experience, one tends to feel deprived to give it up. One can get a similar feeling by sitting in the direct soundfield of a forward radiator at close range, but extension of this feeling to more distant listening positions is not easily obtainable. And this feeling has a lot to do with sounding like live music.

The imaging and spatial behavior of the Larsen 4.3 is similarly unusual. The delay of early reflections for a long time gives one a feeling of not being in a listening room. But at the same time, the imaging is less pinpoint than with nearfield monitoring, I suppose because the initial arrival is slightly blurred in time by what small higher-frequency reflections there are off the wall behind (these are not heard as separate events but as a spreading of the sound slightly, albeit not in the tran-

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sient sense). The kind of razor-sharp stereo focus one can get from a well-matched pair of free-space monitors at close range is not really there. It is debatable whether this razor-sharp focus is very often a feature of real music, but in any case, the 4.3s present stereo in a slightly less focused way. Moreover, while presenting depth well that is actually recorded, they do not present the kind of "depth" that arises from the delayed sound coming straight off the wall behind conventional speakers and especially dipoles. Again, people have been arguing for a long time about whether this sense of depth is real or just an artifact of stereo playback.

One really striking feature of the 4.3s is their ability to remain stereo-coherent when widely separated. I had the review pair around when I was working on my article "The Geometry of the Orchestra" (May/June 2023), and indeed experimenting with these speakers was one of the inspirations for writing that article. Since they can be, and indeed should be in most cases, placed on the long wall, and since they remain coherent when far apart, they allow a width of orchestral image that is much closer to the live experience than almost any other speakers can manage. The combination of the wide image and the convincing depth on Reference Recordings' "Swan of Tuonela" from *Reveries* was surprisingly close to the actual experience, spatially, of listening to a full orchestra live. For that matter, it was close otherwise, too: The instruments had natural timbre, and definition in the lower frequencies was excellent. Usually, the experience of listening to a large orchestra reproduced is like a miniature of the real thing; even if one has the dynamics, one seldom has the space, the geometric spread. People try to persuade themselves that it is somehow there. But it usually is not. This is not an experience that one really expects, especially from relatively small and relatively inexpensive speakers. In fact, it is not much expected from speakers altogether. But there it was. I was quite fascinated. Very much so, actually. Orchestral sound was well served tonally, and it was exceptionally served in spatial terms. And in the overall sense of hearing a large orchestra in every sense. This was quite remarkable performance, especially in this size and price range.

Where the Larsen 4.3s Stand

In the under-$3000-per-pair price range, one does not expect perfection. (Actually, a realist probably does not expect perfection at any price, but one can hope for not too many limitations.) The 4.3s offer a set of virtues that are unusual in this price range. They have bass extension that is surprising for their size and a kind of definition in the bottom end that is musically valuable and hard to find in speakers that are not placed against room boundaries. They fill the room with well-balanced sound, and, especially with a little EQ touch-up, they present a good approximation of tonal truth, if not the nearly absolute certainty of such that one can get from (more expensive) BBC-heritage monitors at close range.

Many audiophile speakers in this price range, having to give up something, give up bass performance and musical scale. Such speakers tend to be unsatisfying if one is inclined to listen to large music, whether classical orchestral or rock or jazz of high intensity. The Larsen 4.3 remains satisfying for such music to an extent that is impressive.

Another factor is that in a small room the Larsen 4.3s in effect give one the effect of a somewhat larger room in terms of space left over after the speakers are installed A free-space-mounted speaker really ought to be at least three, and better yet, four or more feet from the wall behind. And you, the listener, need to be a similar distance from the wall behind you. But with the 4.3, while you still need the space behind the listening seat, you do not need any space at all behind the speakers. *De facto*, this makes life a lot easier in a small room. It is like adding several feet to the size of your room in acoustic terms and in terms of living space free of speakers.

In summary, if you do not want to spend a lot of money, but you still want to hear all kinds of music, including music of scale and power, the Larsen 4.3s are something you should consider carefully. On a smaller budget and/or in a smaller room, they may be the speakers for you. They surely offer a sound that is both distinctive and very convincing in its own terms. I had good reasons for giving the Larsen 4.3 a Golden Ear award. On a personal note, I must say I missed their orchestral presentation after the review samples were returned to the distributor.

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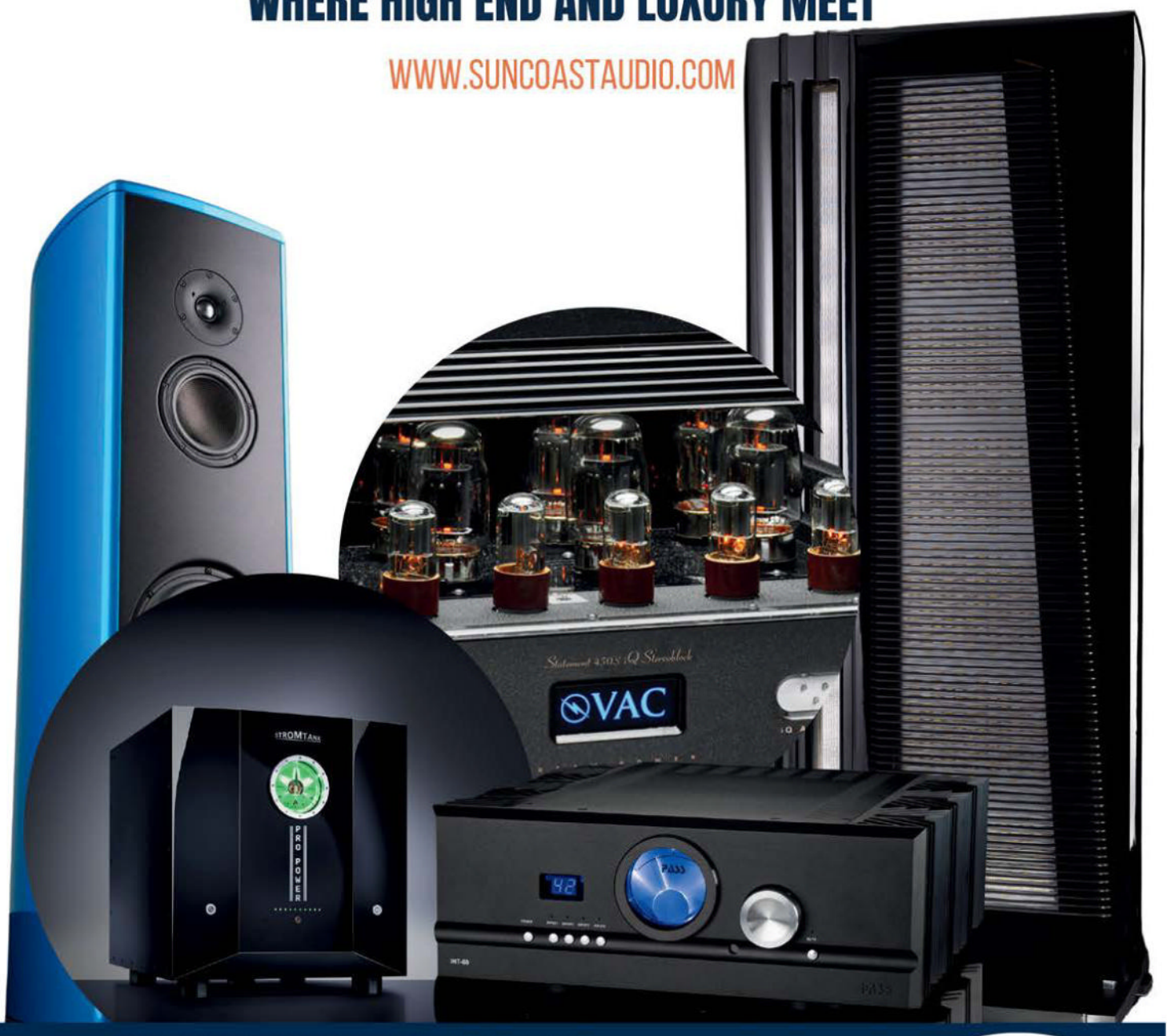

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Andrew Quint

Gabi and Edwin van der Kley Rynveld, a high-end audio power couple if there ever was one, personify the idea that this hobby of ours is "about" the point of intersection between art and technology. As many in the industry are aware, Gabi—she started Crystal Cable with Edwin in 2004—is an accomplished concert pianist who studied at the famed Liszt Ferenc Academy in Budapest. What's less well known is that her husband, who has a B.S. degree in electrical engineering and is the CEO of IAH, the company that owns Crystal Cable and Siltech, also has musical bona fides. After a week of listening to the company's new Minissimo Forte loudspeakers, I emailed Gabi with a few preliminary questions and, when I didn't hear back for a few days, wrote again to ensure that the message had been delivered. She replied to apologize for the delay and explained that she was in Greece, recording Edwin's piano concerto with the Athens State Orchestra at the Megaron Concert Hall. Yes, I answered, my questions could wait.

The review pair of the Minissimo Forte, serial numbers 003 and 004, was delivered from the Netherlands with a slender owner's manual that had nothing to say about setup, a bit of a concern to me as these loudspeakers are not symmetric in their design—there *could* be a "correct" right or left channel. Of course, one should try both possible configurations, which I eventually did. But I felt the question deserved to be addressed in the user instructions, which mostly emphasized that the Minissimo Forte was a "heavy object" that should be extracted from its packaging by two people. That advice was dutifully followed, and the speakers situated where other smaller stand-mounts had done well in my 225-square foot room, the initial right/left disposition chosen based on images found online as I awaited official comment from Holland. I started listening to music, and it wasn't long before any audio-neurotic worries regarding loudspeaker laterality faded in significance. What I was hearing was simply amazing.

Near the bottom of my review playlist is a selection I don't get to with every product, Ravel's *Tzigane* for violin and piano as performed by Tessa Lark and Amy Yang on their 2019 release *Fantasy*. Lark was born and raised in a small city in Kentucky, and her earliest influences were Bluegrass and American roots music before she developed her classical chops at the New England Conservatory and Juilliard. The rhapsodic Ravel work is ideally suited to Lark's "fiddler's soul"—the first 4:18 of the 10-minute piece, for violin alone, is wildly virtuosic and intensely involving. As recorded by Judith Sherman at the Academy of Arts and Letters in New York City and played back through the Minissimo Fortes, the image of the solo instrument *exists* between the two speakers—there's just no better word for it—as a palpably dimensional object, perhaps the most believable representation of a musical sound I've ever heard through a stereo system. When the piano finally enters, the sense of a much larger sound-producing device that occupies its own more substantial part of a shared performance space is completely believable. The luxuriant resonance of the Steinway's bottom octaves and the brittle attack of the highest notes seemed as real as all the nuanced particulars of Lark's execution of this phenomenally difficult

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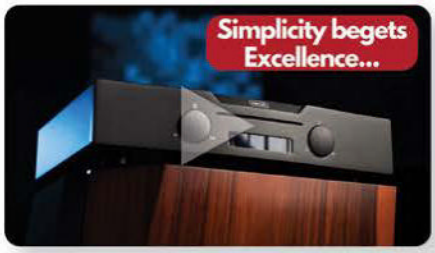

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Specs & Pricing

Type: Two-way, ported, stand-mount loudspeaker
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Frequency response: 48Hz–38kHz (+/-3dB)
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Sensitivity: 95dB/2.83v
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piece—variations in her bow pressure, two-handed pizzicato effects, harmonics, double-stops, etc. I definitely wasn't thinking about speaker placement.

The Minissimo Forte has an older stand-mount sibling still in production, the Arabesque Minissimo ($14,000 with stands) that I reviewed back in 2015 (Issue 256). In appearance, not that much has changed—the Forte has the same adorable apostrophe-on-its-side form factor that seems to make passersby want to caress it. The enclosure is still machined from a single block of aluminum/resin matrix and there's a small port on the bottom surface that's easy to miss. As before, there's no damping material inside the cabinet. Instead, Crystal Cable has developed its "Multiple Absorption and Dispersion" (MAD) technology—by varying its internal structure; additional dispersion occurs within the cabinet without an increase in energy absorption. This approach, Gabi Rijnveld observes, "keeps the sound lively without any resonance."

The Forte, as was its predecessor, is a two-way system employing Scan-Speak Illuminator drivers, a D3004/6640-00 1" beryllium-dome tweeter and a 15WU/8741T-00 5.5" paper-cone mid/woofer. The crossover network, technology that's trickled down from Edwin's no-holds-barred Siltech Symphony loudspeaker (537 pounds per side, $480,000 per pair), is the most innovative engineering feature of the new product. The Minissimo Forte is a speaker that you plug into a wall outlet, but it is *not* an active loudspeaker, at least not as most audiophiles understand the term. Rather, it's a loudspeaker with a partially powered crossover, an approach that requires further clarification.

Crystal Cable characterizes the Forte's crossover as having a "semi-active, balanced, second-order topology." AC comes into the speaker to power a buffer amplifier—a Hypex NCore Class D device with no gain to speak of—that's inserted between the crossover and the drivers. "As the buffer amplifier has a very low output impedance compared to the crossover filter," explained Rijnveld, "the crossover frequencies are no longer affected by the variation in impedance and other non-linearities that result from current generated by the speaker drivers." The design allows for the elimination of the crossover's inductive coil, known for its potential to compress dynamics and compromise linearity. Distortion is significantly reduced, and modulation effects are eliminated. The external power amplifier has an easy task, as the input impedance is 16 ohms, and the choice of speaker cables is less critical. The Minissimo Fortes will indeed play "forte" and then some—the maximum SPL is specified as 105dB.

An aluminum tube, lined with mass-load vinyl to render it acoustically inert, connects the enclosure to the round CNC-machined base and situates the drivers at the proper height. The crossover is situated within the stand near the base, close to the on/off power switch. A svelte 2.5-meter Crystal Cable power cord is provided for each speaker, and, naturally, CC monocrystal wire is used internally. (When the speaker is first turned on, a slight hum is audible. This disappears entirely within a minute or so.) There's a single pair of WBT binding posts. Standard colors for the cabinet and base—the connecting stand is always black—are Champagne, Fire Glow Red, and Matte Black; others can be had for an upcharge. There is one option offered with the Minissimo Forte—a black-anodized solid-aluminum "spatial form" called the Scala that sits atop the enclosure, following the contours of the cabinet exactly. This "top-hat" (as U.S. distributor Aldo Filippelli calls it) manifests a unique staircase pattern designed with the help of advanced modeling software that is said to optimize the loudspeaker's radiation pattern. A pair of Scalas costs $1400 beyond the $24,000 price for the speakers themselves.

Optimal placement in my room had the two loudspeakers eight feet apart, canted in slightly, nine feet from the sweet spot. I stuck with digital sources: silver discs were read by a Sony X1100 ES universal player, local files played back via a Baetis Reference 3 server, and music was streamed via Qobuz. The controller/DAC was a Tidal Contros, and the Tidal Ferios monoblocks drove the loudspeakers. Analog cabling was 880 Series Siltech. Digital cables included Wireworld (AES/EBU) and Apogee Wyde Eye SPDIF.

There were several aspects of the Arabesque Minissimo that I reviewed eight years ago that impressed but none more than the capacity of such a diminutive loudspeaker to "play big." For me, the bottom line with this audio metric is large-scale orchestral repertoire, what the late Harry Pearson called "power music." One of HP's favorites was a 1994 Telarc release, Rachmaninoff's *Symphonic Dances* with David Zinman conducting the Baltimore Symphony Orchestra. The first minute of the first movement tell you all you need

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to know about the representation of musical scale. After nine measures of quietly tentative, sparely scored violins, violas, and solo winds, there follows six bars of aggressively slashing strings and barking French horns, punctuated twice by timpani and bass drum. There's a silence after each percussion detonation that should illuminate the extent of the recording space, the Joseph Meyerhoff Symphony Hall in Baltimore. It's what I get from my reference Magico M2s, and, to a surprising degree, it's what I experienced with the Minissimo Fortes.

There's a related observation. The Minissimo Fortes do an exceptionally good job at communicating the dynamic life of music at lower playback levels—a better job, actually, than my big floorstanders at the same volume. This was the case not only with symphonic spectaculars but also with high-octane big band arrangements from Gordon Goodwin, Bob Mintzer, and Brian Bromberg. If you live your audiophile life in an environment where you've been told from time to time by a spouse (or condo association) to "turn it down," these speakers should perhaps advance on your list of contending products.

In terms of bass output, expectations are sensibly modest and the reported ±3dB low-end response specification of 48Hz seemed credible. So, it was a surprise when I took a measurement at the listening position (with the Dayton Audio OmniMic V2 system) and found that the speaker, in my room, was flat down to around 25Hz. Sure enough, with the rock, pop, and electric jazz recordings that need midbass slam to register their musical points, the Minissimo Fortes were definitely up to the task. Orchestral weight was excellent. The results with sinewave sweeps notwithstanding, I did try adding in my Magico subwoofer and found that adding support in the bottom octave and capturing infrasonic information were occasionally beneficial. But a sub is not a necessity with these speakers, though audiophile friends may wonder where yours is hidden.

At the other end of the frequency spectrum, the Minissimo Fortes negotiated a favorite high-treble torture test, the beginning of Wagner's Act I Prelude to *Lohengrin,* as conducted by Herbert von Karajan for EMI in 1974. The *divisi* violins, playing multiple interlocking parts at the top of their range never congeal into a high-pitched mess. Texture and timbral detail are preserved to a remarkable degree.

The speakers are fast, as a good piano recording can demonstrate. Peter Takács' performance of Beethoven's *Appassionata* sonata on the Cambria label is recorded at a respectful distance, and although there's a slight *blurring* heard with rapid passagework, this isn't at all the same thing as *smearing.* The first is a consequence of where a listener is sitting in the venue (in life or in a recorded perspective),

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while the second is a casualty of sub-optimal audio reproduction. With the Fortes, you hear the piano as you'd hear it 12 rows back in a good recital hall. The loudspeaker's ability to correctly scale musical sounds and transmit subtle spatial cues was evident on the Tessa Lark recording described earlier.

When it comes to that most critical parameter for many audiophiles, accurate reproduction of the human voice, the Crystal Cable loudspeakers did not disappoint. Among the most interesting cross-genre collaboration I've encountered in recent memory was last year's *The Folly of Desire,* which brings together the A-list oratorio/lieder singer Ian Bostridge and the musically omnivorous jazz superstar Brad Mehldau. They perform a 12-part song cycle by the pianist that sets texts by Shakespeare, Goethe, Brecht, Auden, and others that investigate "the limits of sexual freedom in a post-#MeTo political age." The evolving baritonal quality of Bostridge's once-piercing tenor instrument is apparent, and his alertness to lyrical content and musical gesture is obvious via the Minissimos.

The owner of a pair of these speakers will need to make two consequential decisions (well, three, if you include the color of the cabinet). First, I did try switching the positions of the right and left speakers so that the "fat" part of the apostrophe was on the inside and the thin curl was closer to the side wall. At least in my room, this resulted in a reduction in the seamlessness of the soundstage and slightly less midbass punchiness. You'll just have to try it both ways. I can see how the disposition just described might work better in a very small room or nearfield deployment. The second is whether to spring for Scalas to place atop the speakers. Well, it turns out that this meticulously machined accessory—it's very cool-looking, by the way—makes a big difference in terms of image focus and dynamic pointing. Honestly, this shouldn't be offered as an option; the Scala should be standard. Crystal Cable can increase the price of the loudspeaker if it must but shouldn't allow critical listeners to purchase a compromised version of its product.

The Crystal Cable Minissimo Forte is not just one of the best small loudspeakers I've heard; it's also one of the best loudspeakers, period. I've come to understand that certain kinds of "realism" in audio reproduction—how loud an amplifier will play, how low a speaker will go—are overrated; they pale in comparison to tonal accuracy, a natural spatiality, and dynamic life. Especially if your audio system lives in a small to moderate-sized space, if playback levels are a concern, and if smart industrial design is something you value, the "Minissimi," as Gabi Rijnveld is fond of calling them, deserve the strongest possible recommendation. Hear them if you can.

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Wilson Benesch Omnium Loudspeaker and IGx Infrasonic Generator

The Hippocratic Oath

Robert Harley

The British firm Wilson Benesch has for 30 years been at the forefront of employing advanced materials technology in audio applications, specifically carbon fiber. In fact, the company's first product, a turntable and tonearm introduced in 1990, was built partially from carbon fiber. This was at the time when carbon fiber was an exotic new material used only in Formula One cars and aerospace applications. For more than three decades, Wilson Benesch has made carbon fiber a foundational technology of its loudspeaker enclosures, turntables, and equipment racks.

Carbon fiber is made from petroleum fashioned into long thin strings that are woven into a cloth-like material. The material is impregnated with resin that hardens when subjected to high temperatures. The flexible material is put into a mold and heated to cure the resin and create the final rigid shape. Carbon fiber has revolutionized many industries with its unparalleled combination of light weight and high strength. Today, you'll find carbon fiber in sports equipment such as snowboards, tennis rackets, golf clubs, automobiles, military hardware, and prosthetic limbs, for just a few examples.

Today's Wilson Benesch has full carbon-fiber manufacturing capability in-house, which may be unique in high-end audio. The 17-employee company also has a machine shop where it manufactures virtually all the parts in its loudspeakers, down to the driver-motor housings.

But is there a material even better than carbon fiber, and one that is more sustainable? To find out, in 2017 Wilson Benesch joined a consortium of 17 European research laboratories, universities, and industries to explore a sustainable (non-petroleum-based) alternative to carbon fiber created from renewable resources such as bio-materials. This collaborative development project was called SSUCHY—"Sustainable Structural and Multifunctional Biocomposites from Hybrid Natural Fibres and bio-based polymers." The four-year project had a budget of €7.4 million Euro's, €4.5 million of which was subsidized by the British government.

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Specs & Pricing

Omnium
Type: Two-and-a-half-way, 9-driver floorstanding loudspeaker
Frequency response: 27Hz–30kHz ±2dB on-axis
Impedance: 4.5 ohms nominal
Sensitivity: 89dB at 1m, 2.83V input
Minimum amplifier power: 100Wpc
Driver array: 1x 1" WB Fibonacci hybrid silk-carbon tweeter; 2x 7" WB Tactic 3.0 bass high; 1x 7" WB Tactic 3.0 midrange; 1x 7" WB Tactic 3.0 bass low; 4x 7" WB Isobaric Drive System bass low
Enclosure: Carbon composite A.C.T. 3Zero monocoque
Loading: Sealed (isobaric drive system is ported)
Dimensions: 8.1" x 68.5" x 25"
Weight: 309 pounds each, net
Price: $149,000 per pair

IGx Infrasonic Generator
Driver: 18" carbon-fiber/polyethylene terephthalate
Motor: Push-pull around steel core
Frequency response: 5Hz–30Hz, min; 5Hz–90Hz, max (-3dB)
Integral amplifier power: 100W continuous, 500W peak
Inputs: Line level on RCA and XLR jacks, high level on Speakon jack
Input impedance: 10k ohms (RCA), 10k ohms per phase (XLR); 180k ohm (Speakon)
Controls: Polarity switch, phase, level, low-pass crossover frequency
Dimensions: 20" (diameter), 17" (height)
Weight: 119 lbs. each
Price: $32,000 each

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Digital source: Wadax Reference DAC, Wadax Reference Server, Wadax Reference PSU, Wadax Akasa Reference DC Power Cables, UpTone Audio EtherREGEN Ethernet switch
Amplification: CH Precision L10 Dual Monaural linestage; CH Precision M10 Dual Monaural power amplifiers
AC Power: Shunyata Everest 8000 conditioner, Shunyata Omega and Sigma NR V2 power cords; Shunyata AC outlets, five dedicated 20A lines wired with identical length 10AWG
Support: Critical Mass Systems Olympus equipment racks and Olympus amplifier stands; CenterStage2 isolation, Ayra Audio RevOpods isolation
Cables: AudioQuest Dragon interconnects, AudioQuest Dragon Zero and Dragon Bass loudspeaker cables
Grounding: Shunyata Altaira system
Accessories: The Chord Company GroundArray noise reduction
Acoustics: Acoustic Geometry Pro Room Pack 12, ASC 16" Round Tube Traps
Room: Purpose-built; Acoustic Sciences Corporation Iso-Wall System

The group developed a fiber composite based on hemp that has properties very similar to carbon fiber. The new material was exhaustively analyzed in the laboratories at Bristol University and the Femto Laboratory at the micro and macro levels, comparing oil-based carbon-fiber composites with this new bio-based composite, specifically how the composites behaved when subjected to structural-borne vibration. The researchers found the new material to be superior to carbon fiber in many parameters, and being made from bio-materials, it doesn't rely on petroleum as the primary ingredient. The material looks like carbon fiber with its woven structure but is brown rather than black in its raw form. It can, however, be dyed any color including black to emulate the look of carbon fiber.

Which brings us to the Wilson Benesch Omnium loudspeaker and its cabinet made from this new bio-composite material. The $149,000 Omnium is the company's second-from-the top model and a direct descendant of Wilson Benesch's $225,000 Eminence that I reviewed in Issue 294.

Design

The Omnium is a two-and-a-half-way, nine-driver loudspeaker housed in a tall slim enclosure. It features the same design philosophy, drive units, and cabinet construction as the Eminence but in a slightly shorter cabinet with one fewer drive units. Rather than reinvent the wheel with the Omnium's technical description, I'll include a modified version of the description I wrote for the Eminence, as the two speakers are that similar in design and construction.

The Omnium is packed from top to bottom with extremely advanced materials and ingenious designs. Starting with the enclosure, it is an evolution of the A.C.T. (Advanced Composite Technology) cabinet Wilson Benesch developed in 1994 for its first speaker (which was itself based on the A.C.T. plinth for Wilson Benesch's turntable in 1990). This latest version builds on that foundation, maintaining the curved monocoque structure built from bio-composite panels around a high-compression

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core. The new enclosure, designed with FEA (finite element analysis), features a sandwich of bio-composite panels around a proprietary new core material that reportedly increases the stiffness-to-damping ratio by 30% compared with the previous A.C.T. enclosure. The combination of the extremely stiff bio-composite panels around a highly damped inner core both resists and damps resonances so that the cabinet is an inert platform for the drivers. The cabinet's shape is based on the curvatures found in nature, which exhibit the maximum strength for a given thickness. Wilson Benesch says that this new A.C.T. enclosure is one of the lightest, stiffest, and best damped structures ever manufactured.

The boat-tailed enclosure terminates in a thick piece of aluminum that runs vertically up the entire cabinet height, a component Wilson Benesch appropriately calls the "backbone." The baffle is also machined from aluminum. Viscoelastic damping material couples the various cabinet parts to suppress resonances. In addition, the direction of the bio-composite weave directs energy down the fibers and into the viscoelastic material that connects the cabinet sections. The bio-composite panels and inner core are mutually self-damping, as are the interfaces between bio-composite panels and the aluminum baffle, backbone, and foot.

The enclosure is shipped in two parts and assembled at installation. The lower enclosure is bolted to a massive aluminum plate that has been artfully machined into a sculpture that suggests flowing water. The aluminum plate, which Wilson Benesch calls the "foot," is machined from a 265-pound aluminum billet. Seven hours on a CNC machine turns the raw slab into an elegant, finished shape. The speaker is anchored to the floor with four vertical "kinematic bearings" designed by Wilson Benesch and first used in the A.C.T. tonearm in 1991. Each bearing is composed of a finely threaded stainless-steel shaft 28mm in diameter that screws through a corresponding threaded hole in each corner of the foot. The top of this shaft is a large round hand-wheel that allows you to turn the shaft and raise or lower that corner of the foot. The other end of the shaft is the business end; it terminates in a 12.5mm steel ball that rests in the middle of three other 12.5mm steel balls that are held captive in a cup that sits on the floor. The steel ball on the shaft is held precisely between the three steel balls in the cup, eliminating any motion (see inset photo). The contact points for the speaker's 309-pound weight are less than one square millimeter, resulting in a downward force of hundreds of tons per square inch. This design, called kinematic coupling, was developed by James Clerk Maxwell in 1871 and is used in a range of industries where precise alignment between two parts that can be separated is required.

At the speaker's other end is a bio-composite top piece whose odd geometric shape is designed to reduce interference in the wave launch from the baffle and to diffuse reflections. It was created by converting sketches into a clay model and then laser-scanning the model into a 3D digital image that could be analyzed and manipulated in software.

The cabinet has been made as small as possible, so that its sonic contribution is minimized. The smaller the cabinet, the easier it is to damp, and any resonances that remain will produce less unwanted cabinet sound. The narrow baffle and its curved shape also reduce diffraction. Despite the cabinet's relatively modest size, the internal volume is considerable, owing to the thinness of the bio-composite structure. The speaker has a very small visual presence when viewed from the listening position.

The speaker has a very small visual presence when viewed from the listening position.

The drivers, and the way they are deployed, are equally innovative. All the drivers are designed and built in-house. The most salient aspect of the driver configuration is the isobaric woofer array and its backward-facing drivers. The two 7" woofers you see at the bottom of the baffle are mated to identical drivers inside the cabinet that you don't see, with their cones facing each other. Because the two drivers in the isobaric pair are driven by the same input signal, they move in unison. As the two facing drivers move together, the woofer you hear (the one you see on the baffle) doesn't have to contend with the springiness of the air inside the enclosure, as occurs with all other loading techniques. Indeed, "isobaric" means "equal pressure," and isobaric loading is technically known as a "constant-pressure chamber" configuration (the "constant pressure" referring to the air pressure in the space between the two woofer diaphragms in the isobaric array). A woofer loaded in this way has a very low resonant frequency, allowing the system to extend very deep in the bass yet still maintain very fast transient response. The isobaric array's ability to start and stop very quickly not only results in better transient performance in the bass but also allows the low-frequency section of the speaker to better integrate with the transient speed of the midrange and tweeter. In other words, isobaric loading prevents the common affliction of a big slow woofer lagging behind a smaller, lighter, and faster midrange driver, creating an audible discontinuity. Wilson Benesch says that the isobaric array in the Omnium has a better step response (how quickly the cone accelerates in response to a steep input signal) than the midrange driver, which is unheard of. A guiding principle at Wilson Benesch throughout its 30 years of building loudspeakers is that transient performance is of paramount importance to fidelity. The company has always deployed small woofers with very powerful magnets that can start and stop very quickly—like a 500-horsepower engine in a lightweight sports car.

Besides superior transient response and better integration with the midrange, another reason Wilson Benesch chose such diminutive woofers for its top models is that the mounting holes in the enclosure can be smaller. Smaller holes don't compromise the cabinet's rigidity as much as larger openings. In addition, a smaller hole results in less energy from the driver's backwave emerging through the driver and out into the room where it colors the sound.

Unusually, particularly for a large reference-class loudspeaker, the 7" midrange driver is run full range, with no crossover components between your amplifier's output terminals and the midrange

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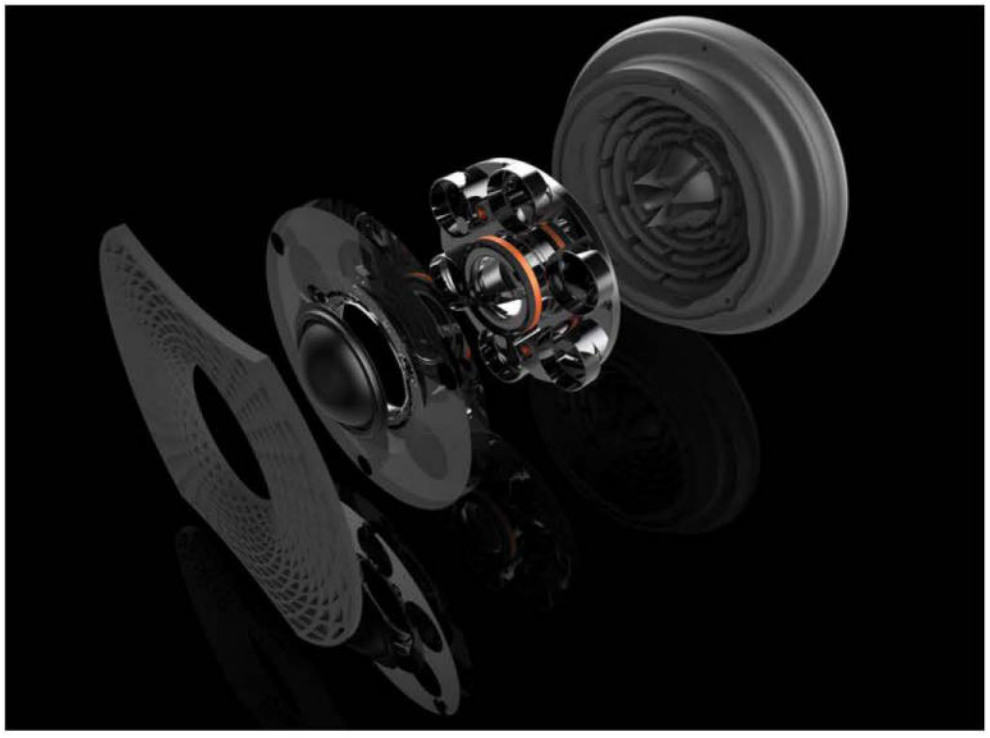

driver's voice coil. Removing inductors and capacitors from the signal path, particularly on the midrange driver, confers enormous advantages in clarity and immediacy, but places quite a burden on that driver, particularly in a large full-range system like the Omnium. The 7" driver's excursion limits will define the entire speaker's maximum output level and ability to reproduce low-bass transients. The design goal of running the midrange driver full range likely dictated the use of a 7" cone, which is rather large for a midrange.

The tweeter is the same all-new design created for the flagship Eminence, but based on a classic Wilson Benesch approach that cleverly addresses the dilemma of the relative merits of soft domes and hard domes. Soft dome tweeters don't ring like hard domes, but their break-up mode occurs within the audible spectrum, typically at 18kHz. At that frequency, the dome's motion ceases to be pistonic; parts of the dome are moving forward while other parts are moving backward. Wilson Benesch addresses this problem by mounting a strip of carbon fiber across the dome surface that strengthens the dome and shifts the first break-up mode to 30kHz. In addition, the carbon fiber helps to damp resonances in the dome. (The tweeter's voice coil also features a carbon-fiber strip to increase its rigidity.) Wilson Benesch calls this hybrid dome structure the Semisphere.

The Semisphere diaphragm has been coupled with a new technology that Wilson Benesch calls the Fibonacci Element. This is a tweeter faceplate formed in an intricate lattice structure (see inset photo). The Fibonacci Element reportedly precisely controls the constructive and destructive interaction of the direct sound from the tweeter and reflections from the tweeter faceplate. The result is reportedly extremely flat frequency response. According to Wilson Benesch, the typical flat tweeter faceplate introduces many small frequency-response irregularities in the treble. The Fibonacci Element is made through "additive manufacturing," also known as 3-D printing. The tweeter is decoupled from the baffle by a damped substructure that you can see through the lattice.

The tweeter is the same all-new design created for the flagship Eminence.

The other drivers are the latest versions of Wilson Benesch's Tactic drive unit, introduced in 2001. The Tactic name is derived from the cone material, isotactic polypropylene. Isotactic polypropylene differs from conventional polypropylene (widely used in driver diaphragms in the 1970s) in that rather than being a homogeneous material, it is made from woven polypropylene fibers, a technique that increases the material's stiffness five-fold. Conventional homogeneous polypropylene has very good self-damping but lacks stiffness; the new material reportedly realizes polypropylene's high damping while overcoming the stiffness problem. The isobaric woofers, lower-bass drivers, upper-bass drivers, and midrange all feature isotactic polypropylene cones. The two upper-bass drivers and midrange also include a Fibonacci Element dustcap.

The Ominum's concept is decidedly different from other statement-level loudspeakers, reflecting the sonic priorities of its designer. The technology behind the speaker has been meticulously researched and represents the culmination of 30 years of building loudspeakers. It's worth noting that one can trace the Omnium's fundamental design goals, and the technology that realizes them, back to Wilson Benesch's first loudspeaker. Finally, the execution is exemplary; I got the impression that no corners were cut to save cost. You can think of the Omnium as a slightly smaller and less expensive version of the flagship Eminence. With the introduction of Wilson Benesch's new IGx Infrasonic Generator, the Omnium with a pair of IGx's costs less than the Eminence.

Because of its small footprint, the Ominum will fit in many rooms where a conventional flagship speaker would look bulky or imposing. A variety of natural wood finishes, along with different bio-composite colors (that look just

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like colored carbon fiber), will also help the Omnium integrate visually with the décor.

IGx Infrasonic Generator: Don't Call it a Subwoofer

Wilson Benesch takes a radically different approach to bass reproduction, not just in its loudspeakers but also in its product that most would call a subwoofer. Wilson Benesch refers to this external dedicated bass-reproduction device as an "Infrasonic Generator." In my review system, the Omnium was augmented by two of the company's all-new IGx Infrasonic Generators. The IGx is an evolution of the company's Torus, a product that was a turning point for how subwoofer-averse Jonathan Valin viewed such devices (see his review back in Issue 170, March 2007).

In considering Wilson Benesch's bass-reproduction technology, watching company representative Luke Milnes set up the system (a *very* judicious hand on the IGx's gain knob), and from my own listening to the result, it seems as though the company's foremost consideration is akin to the Hippocratic Oath—first, do no harm. That is, Wilson Benesch has prioritized avoiding the common loudspeaker affliction of bass bloat and compromised low-frequency transient fidelity. Any slowness, overhang, or resonances in the bottom end are anathema, and the company has gone to extraordinary lengths in engineering such flaws out of their products. Wilson Benesch has taken this idea to the extreme in the Omnium and in the IGx Infrasonic Generator.

The IGx shares the same fundamental design approach of the Torus, housing a large (18") upward-firing woofer in a round enclosure and driving that woofer with a novel motor design. That motor consists of a round 35-pound central steel core vertically positioned in the enclosure into which two powerful neodymium magnets are mounted. One of these motors protrudes above the diaphragm, covered by a chrome cap (you can see it in the photo; it's what gives the IGx the "hubcap" appearance). The other motor is mounted just below the driver. Attached to the diaphragm are two 82mm coils, each one positioned around a motor. This dual-motor design creates a push-pull mechanism, with one motor pushing the diaphragm and the other pulling it.

The diaphragm is made from an extremely lightweight and stiff material that is a combination of carbon fiber and Polyethylene Terephthalate (PET). Wilson Benesch worked with two carbon-fiber weaving companies to develop this proprietary material. Significantly, the diaphragm is a solid piece of material, not a patchwork of carbon-fiber as is often seen. Wilson Benesch claims that the IGx's diaphragm is the stiffest, lightest, and most highly damped dynamic drive unit diaphragm ever made. In addition, a new surround material reportedly reduces frictional losses.

This design is very different from a conventional woofer in which the cone is attached to a voice coil and mounted in a basket, suspended at the outer edge by the surround and inside the speaker around the voice coil with a spider that maintains the diaphragm's alignment in the basket.

The IGx's unique design removes the parts that inhibit woofer motion (particularly the spider) and couples a very light diaphragm directly to a massive push-pull motor, resulting in an iron-grip over the woofer's motion and very fast response. The IGx's driver is contrasted with a comparably sized conventional woofer that is driven by a single motor (rather than the IGx's dual-motor push-pull design), has a heavy diaphragm, and operates under the burden of a stiff surround and spider that inhibit its motion. The IGx's design displays extremely innovative engineering—no other low-frequency transducer is even remotely similar in design.

Looking at the IGx in practice, the unit can be driven by line-level signals on RCA or XLR jacks, or from the output terminals of your power amplifier via a cable with a Speakon connector on one end and bare wires on the other. This seems to be WB's preferred arrangement; this high-level connection is how Luke Milnes set up the review system, although I had a second preamplifier output at the ready. System controls include a gain knob (-30dB to +60dB), low-pass crossover frequency (30Hz–90Hz), and phase control. The IGx is designed to augment the bass output of Wilson Benesch's main speakers, which are run full range. That is, no external crossover is required to divide the frequency spectrum and high-pass filter the main speakers.

The IGx's internal amplifier power is rated at 100W continuous, or 500W peak. In an era of multi-thousand-watt amplifiers in subwoofers, 100W continuous and 500W peak output may not seem like much. But it's plenty for the IGx's high-sensitivity drive unit. The term "infrasonic" in the product name isn't hyperbole; the -3dB point is specified at an astonishing 5Hz. If you think about a very large diaphragm (18") with a long excursion, you can see the IGx's potential for reproducing very high levels of very low bass. In normal use, however, the IGx isn't operated anywhere near its limits.

The IGx is based on the same motor and diaphragm concept as the Torus but realized with much better parts and implementation. For example, the Torus's enclosure was made from MDF; the IGx is made from extruded aluminum panels mated to a massive aluminum base that is machined from a solid aluminum billet. Although only slightly taller than the Torus, the IGx has nearly double the internal volume thanks to the thinner (but stiffer) aluminum enclosure. The IGx also features 13mm steel ties across its vertical axis and a large, 8mm, precision-laser-cut steel cross brace in the horizontal axis. The bottom plate is

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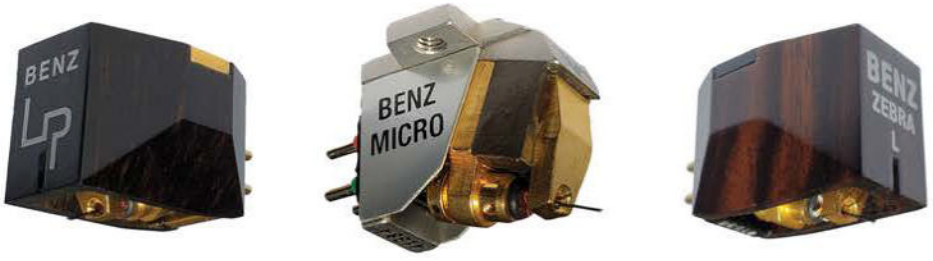

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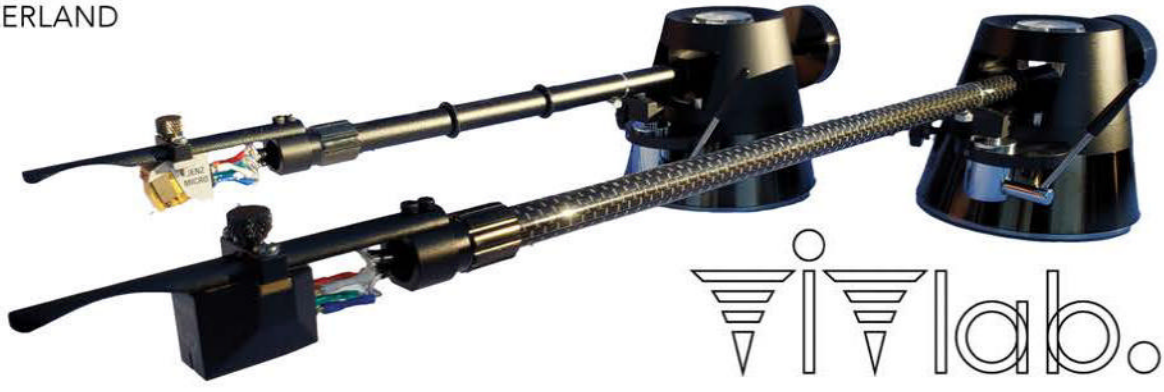

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machined from 110-pound aluminum billet. This structure adds mass at the lowest point of the IGx and contains the electronics that drive the IGx. The vertical braces attached to the top ring and this base are under high tension to strengthen the enclosure. Finally, a magnetic fitting grille can be placed on top of the IGx.

Listening

Luke Milnes from Wilson Benesch and Brian Ackerman, WB's U.S. distributor, visited to set up the Omnium and a pair of IGx Infrasonic Generators. You can find a video on *The Absolute Sound*'s YouTube channel of Luke discussing the speaker in my listening room after we finished the setup. The review samples were finished in a stunning Aventador Blue, the same color found on Lamborghinis.

Not surprisingly considering their design similarity, the Omnium sounded very much like the Eminence. That sound is characterized by an extremely smooth tonal balance, tremendous transparency, low coloration, and whip-fast transient reproduction. Although it's been five years since I heard the Eminence in my room, and my associated equipment is different, I nonetheless had the impression that the Omnium may have a slightly more refined sound, with superior resolution and an even quieter enclosure (if that's possible).

The Omnium's design priorities—whip-fast transient response, dynamic agility, speed, and articulation—were on full display. This is a very lively and upbeat-sounding speaker, with a sense of life, immediacy, and vitality owed to its transient fidelity. It prioritizes detail and speed over tonal density, resulting in an "illuminated from within" quality that fosters the impression of transparency and an expansive sense of space and bloom in the top end. The attacks of notes are rendered with tremendous speed and precision. Adding to this impression, decays are quick and clean, with no overhang. The transient suddenly appears and then vanishes instantly. For example, listen to Hans Theessink's acoustic guitar on the superb album *Jedermann Remixed*; it has a sense of presence, of the instrument being in the room right in front of you, that is startling. The speaker has a directness and palpability through the midrange that create the impression of nothing between you and the musicians. Indeed, the decision to run the midrange driver full range, with no crossover components in the signal path, appears to have paid dividends in this area. Snare drum has a lot of snap and speed, with an emphasis on the "pop" component of the stick hitting the drumhead and the snares rather than on the lower-frequency resonance of the drum itself. Percussion was rendered with lifelike immediacy and resolution. Not only does the Omnium reproduce transients with high precision, but it also reveals inner detail that conveys the mechanism by which the sound was made—wood on wood, wood on metal, metal on metal, etc.

A few other speakers also exhibit this transient speed and low stored energy, but what distinguishes the Omnium is that this dynamic agility extends across the entire spectrum, from the low bass to the top treble. Often, a fast-sounding speaker exhibits a dynamic discontinuity, sounding quick in the midrange and treble but with the bass lagging behind, not just on attacks also on decays, the bass energy hangs on longer than it should. This phenomenon robs music of its propulsive, upbeat character and imparts a murkiness that is a constant reminder that we're hearing a reproduction rather than the music itself. The Omnium doesn't suffer from this common malady, instead sounding just as fast (in attack and decay) in the bass as in the treble. The speaker has amazing dynamic coherence from top to bottom, giving the impression that it has vanished from the playback chain. It also seems to reproduce the full amplitude of transients rather than compressing peaks. The musical effect of removing slowness and thickness in the bass is to convey a lifelike sense of clarity, energy, and upbeat music-making.

All audio components, particularly loudspeakers, exhibit tradeoffs in which optimizing one area of performance comes at the expense of other areas. The designer is aware of these tradeoffs and pursues a technological approach that he believes best serves the music. In the case of the Omnium, what's traded away for this spectacular dynamic performance and coherence is midbass warmth and power. The speaker is lean, tight, precise, and articulate—like an ultra-lightweight sports car with nimble handling. To continue the automotive analogy, the Omnium isn't a cushy highway cruiser. This isn't a speaker with fullness, body, and density of tone color in the midbass. Acoustic bass is reproduced with tremendous resolution of timbral detail and dynamic nuances rather than visceral physical power—Brian Bromberg's solo bass performance on "Blue Bossa" from his album *Wood II* is one example. You hear what the bass player is doing (with great precision) rather than feel it.

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IGx Infrasonic Generators provides a stronger tonal foundation, grounding the speaker with a greater sense of gravitas. The pair of IGx's brings up the very low end and adds fullness and weight. But their addition isn't what you would come to expect if you've added conventional subwoofers to a loudspeaker. Rather than take over the bass duties of the main speakers and dramatically alter tonal balance, coherence, and dynamic continuousness, the IGx's contribution is much more subtle. To its credit, the IGx exhibited exactly none of the downsides of subwoofers—a discontinuity between the subs and main speakers and a disjointed rendering in which the low bass sounds slow and ponderous. Rather, the IGx blended with the Omnium absolutely seamlessly, making the entire speaker system sound "of a piece" to a degree I haven't heard from other four-piece speaker systems. The IGx is very subtle sonically, but the musical effect is profound, adding back the missing tonal foundation of the Omnium alone. The IGx also expanded the sense of space that comes from reproducing low-frequency spatial cues.

The IGx's crossover was set to 35Hz (by Luke Milnes) in my system, reproducing only the bottom-most octave. The midbass was unaffected, meaning that the complete system still favored speed and precision over muscular authority. One plus side of this leaner tonal balance is the complete absence of thickness, lag, bloat, and lumpiness in the bottom end. Some speakers seem to have a constant drone in the bass that's unrelated to the music—not the Omnium. In addition, the Omnium will likely be easier to position and optimize than speakers that have a generous midbass. The common scenario of setting up speakers in a room and then working to reduce bass heaviness is not likely to be a problem with the Omnium.

As I mentioned, the Omnium's midrange was extremely transparent, a combination of many factors but perhaps largely because it is run full range. In addition to this transparency, the mids were highly resolving of instrumental timbre and of the micro-detail that infuses textures with lifelike realism.

The treble is beautifully detailed and resolved without excessive brightness. Indeed, the Omnium's tweeter delivers a full measure of treble energy yet lacks the hard and brittle character of many of today's hard-dome tweeters. Cymbals were infused with the shimmer and decay you hear in life, rather than sounding like bursts of high-frequency energy.

Interestingly, I thought that the Ominum's superb transient fidelity contributed to the speaker's outstanding soundstaging. The suddenness of instrumental attack infused images with an immediacy and palpability that fostered the impression of the instrument existing in space in front of you. The overall perspective was a bit on the immediate side, but with excellent rendering of depth and hall size.

Conclusion

Wilson Benesch has pursued a different approach to loudspeaker design, an approach refined and evolved over the past 30 years. The company has prioritized transient fidelity (particularly in the bass), very low stored energy, and reduced resonances, qualities exemplified in the new Omnium. Wilson Benesch has invented some novel technologies to pursue these goals, along with uncompromising execution. The Omnium is a fully realized expression of the company's values.

The Omnium has the ability to apparently disappear as a sound source. It does this through its tonal neutrality and absence of coloration, sense of immediacy and palpability, ability to throw a soundstage completely detached from the speakers, and significantly, its complete lack of the heaviness and slowness in the bass that so often call attention to the speaker as a sound source. The speaker is quick and detailed, with that speed extending all the way to the lowest bass with no dynamic discontinuity. It's quite a trick, and one that defines the Omnium. The tradeoff is a midbass that favors articulation over tonal warmth, weight, power, and body. This isn't a speaker with a visceral bass impact that involves your whole body in the music.

The IGx Infrasonic Generator restores the missing tonal foundation in the very bottom end and does so, remarkably, without compromising the qualities that make the Omnium so special. The IGx has none of the usual downsides of conventional subwoofers, augmenting the bass with absolutely zero compromise in the overall presentation. It is essentially invisible sonically but gives music a greater sense of tonal gravitas. Because the IGx operates below about 40Hz (in typical installations), the Omnium's midbass is unaffected—it is still fast and lean rather than warm and weighty.

If you are considering a speaker in this price range, the Wilson Benesch Omnium should be on your short list. It takes a different approach, technically and sonically, to the question of how to create a loudspeaker that most faithfully and engagingly reproduces music. tas

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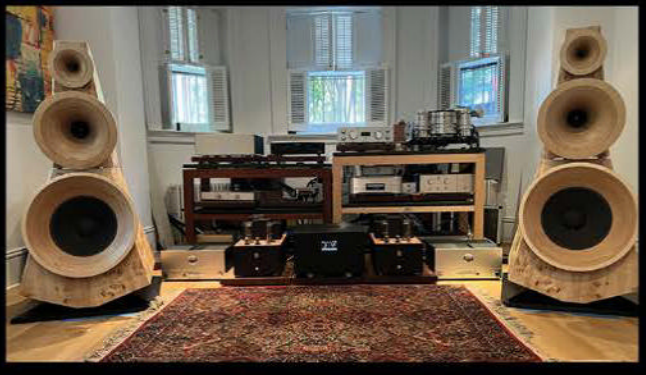

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PS Audio DirectStream DAC MK2

Digital Evolution

Anthony H. Cordesman

PS Audio's new DirectStream DAC MK2 digital-to-analog converter is the focus of this review, and I should begin by making it clear that it is one of a relatively small number of digital products that define the current state of the art in high-end sound. At the same time, I'm writing this review at a point when TAS is entering its early 50s, and I cannot approach an analysis of the best in today's digital sound without remembering the earliest days of digital playback and noting how much its quality has improved over time.

I can remember the first days of digital audio all too well. These were back in the early 1980s when Sony and Phillips—who pioneered CD—introduced their CD players as providing "perfect sound forever." The reality—much like the introduction of the first solid-state amplifiers—fell radically short of the claims. The performance of the first CD players and CDs was not even mediocre, and the "forever" technology used in the first CD players has been updated and improved at a nearly annual level for decades.

TAS made the initial limits to digital sound clear from the start. I remember talking to Harry Pearson (HP) just after he got his first CD player and discs. His reaction—and it soon appeared in print—was that their sound was anything but "pure and perfect." He made it clear that he had no intention of making such players something he would use to define the high end for even a day.

My own experiences with one of the first Sony CD players were no better. It did not sound quite as bad to me as it did to HP, but its upper midrange was too hard, low-level and soundstage detail was significantly less musical than the sound from a top phonostage and high-quality LP, and its technically superior dynamics sounded less realistic. In fact, the Sony player that I'd rushed out to buy as a first adopter was bad enough that I promptly sold it to someone else, who was both desperate enough to be a first adopter and willing to ignore my warnings about the sound of what he would actually get.

Well, decades and a constant process of evolution have worked at least some wonders. The cutting edge in today's best digital sound is a far different story. Equipment like the Perfect Wave Direct Stream DAC MK2 from PS Audio shows that some 40 years of advances have made the best digital sound far more musical and realistic, and the best highest-resolution PCM, DSD, and DSD/SACD discs and streaming now outperform the best-sounding LPs that I've heard. I still would not dream of using words like "pure," "perfect," or "forever," but in the real world, "best currently available" is as good as high-end sound can now get.

Putting the DirectStream DAC MK2 in Perspective

The DirectStream DAC MK2, which is the next generation of the digital technology that Paul McGowan refers to in his comments in the sidebar, is a symbol of the steady advance in the quality of digital sound. It makes no claim to be "pure and perfect forever"—in fact, it is designed so that it can be updated with future digital downloads, but I did find it to be yet another step forward in exploiting digital's capability to provide more dynamic range, lower distortion, and more accurate frequency response than analog sound. Moreover, it provides that superior sound at a time when high-resolution streaming offers access to a far greater range of music than any private record or digital-disc collection and when streaming has a far larger share of the current market than CDs.

At the same time, I should put that praise for the MK2 in perspective. Virtually all contemporary DACs and digital players sound far better than the first two decades of such units, and far, far better than the first "pure," "perfect," and "forever" units. If you are on a budget, you do not have to buy a cutting-edge DAC like the MK2 that costs $8000 to get better sound—or the kind of rival that costs more than five times the price of the MK2.

Almost any current DAC or digital front end will outperform a comparable unit that is several years old in each price range, and it is time to consider a new unit. Basing your current judgment of digital sound on listening to older units is a little like judging today's electric vehicles on the basis of the carriage-like performance of the battery-driven cars that faded out in the 1920s. One set of examples is the fact PS Audio's cheapest DAC and analog preamp combination costs only a quarter of the price of the DirectStream DAC MK2, and its Stellar Strata combines an analog preamp, a DAC, and a

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More broadly, this year's Recommended Components issue of TAS (April 2023), and its Editor's Choice Awards issue (March 2023) list a range of less expensive units—some highly rated. The best current, moderately priced units will not live up to the sound quality of the MK2, but they will make streaming easier and get far better sound from even older CDs than their recent predecessors in the same price range.

I should also stress that the DirectStream DAC MK2 is a DAC only. It does not include a disc player, and it is not an analog preamp. It is designed to work with a wide range of digital inputs, but it does not have a disc-playing mechanism. If you still use digital discs, you'll need a matching disc player like the PerfectWave SACD Transport ($7000). This choice is not a minor issue because I find that actual hard discs—particularly SACDs and DSDs—often sound better than streaming the same recording and performance using the best DACs or integrated players. I'd be careful about given up my collection or relying on transferring them to a hard drive.

Much of the MK2's relative cost will, however, depend on how you plan your audio future. I still use a full separate preamp both for its analog inputs and convenience, but if you don't have a collection of CDs or digital discs, LPs, or tapes, you might consider shifting to streaming and to using an all-digital front end. Unlike many other DACs and DAC setups, the DirectStream DAC MK2 can be used as a preamp in a purely digital system. It may not have an analog input, but it does have balance and phase controls as well as a volume control.

Technology

At the same time, there are some features of its design and technology which do need emphasis in a review. One is that the MK2 upsamples all inputs. As the manual states, "CDs, streaming audio, high-resolution PCM or DSD-based media are all expertly upsampled in the DirectStream MK2 to 20 times DSD rate and output as pure analog directly into your amplifier or preamplifier." This may explain why I heard relatively little improvement going to high-resolution downloads of PCM recordings, although it does help explain why I found SACD and DSD recordings to sound consistently more nuanced and musically nature than PCM recordings.

Another is the technical claim that the DirectStream MK2 is less sensitive to the vagaries of input source types and their level of jitter than most DACs, as well as to the differences in input cables. The manual states that this is partly a result of the fact that the "DirectStream MK2 is galvanically isolated, which means there are no physical connections between the noisy digital source and the sensitive DAC. Power supplies that power noisy inputs are galvanically isolated from the rest of the system. Galvanic isolation aids in the reduction of jitter and unwanted audio artifacts."

There are some features of its design and technology which do need emphasis in a review.

Finally, the technical feature in the MK2 that PS Audio says is most important has the most complicated summary explanation and one, I suspect, that only a fully qualified digital sound engineer can assess. The manual states that "the heart of DirectStream MK2 is the DSD engine itself." The manual then goes to provide a long explanation of why its components and technology provide exceptional input options, upsampling, bit rates, headroom, and transitions to an uncolored output stage. I suspect that few audiophiles who read this explanation will have the technical background to evaluate it, but it still helps explain the key design goals behind the product. It's also worthwhile skimming through the MK2's specifications. They are listed at the end of this review, and they are worth examining.

Operating Features

I should note that my initial "straight out of the box without reading" setup worked just fine, but the manual does include some important instructions. The DirectStream DAC MK2 has operating features that many DACs do not have and ones that include

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the ability to adjust for different grounding levels. If this review makes you want to fully evaluate the MK2, you do need to go to the PS Audio website, read the technical literature, and get a full picture of its switching and remote-control options.

One caution. The DAC MK2 is easy to operate, but if you carelessly press the wrong button, you can create operating problems. As is the case with any complicated piece of high-end audio equipment, the irony behind all the technology in the MK2 is that you can't count on hearing it properly unless you are literate enough to read the operating manual.

The Sound

As you might expect from this introduction, the DirectStream MK2 does sound significantly better than its predecessor—the MK1—which I used as one of my previous references. At the same time, its performance needs to be put in context. Both generations of the DirectStream DAC, like the other top digital designs that have emerged over the last few years, have shown me just how good digital playback can be. Moreover, the improvements that I am about to describe in the MK2 are matters of nuance and largely the kind that take extensive listening to fully appreciate.

Even the best digital front ends are voiced in ways where each sounds somewhat different in frequency response and timbre, in sonic detail and dynamics, in soundstage, and in all the other measures of high-end sound quality. At the same time, the differences between the best digital front ends are now generally smaller than the differences in the sound of the best phono cartridges and tape recorders, most phono and high-level preamps, many power amps, and most loudspeakers.

Put simply, reviewing the sound of a component like the DirectStream MK2 poses the problem that the better digital gets, the more the colorations in the sound of other components in the system, the listening room and position, and the recording drive the overall sound and synergy, which inevitably is marked by its most "colored" elements.

I did, however, find the sound of the MK2 to be some of the best that I've ever heard. It did not lift seven veils from any recording, to deliberately mix a metaphor, but it did do a significantly better job of exposing the strengths of both older and new digital recordings than its predecessor, the MK1, and then the other DACs that I've had in my system to date.

These improvements were particularly clear in reproducing the soundstage in recordings of live performances whose soundstage had both a complex and realistic character. The MK2 did not add any hardness to the upper midrange of strings, brass, woodwinds, or female and tenor voices. Soundstage depth, width, and image size were exceptionally detailed and stable. The MK2 could not fix the tendency of some recording engineers to insist on miking pianos as if they were 30 feet

wide, but good solo piano recordings had a more natural sound and size.

The differences between the string sections of orchestral music were also much clearer on really good recordings. One good example was its ability to reproduce the nuances in the interplay of the clarinet and strings in variety of recordings of Mozart's Clarinet Concerto and between older and more modern string instruments. Low-level and peak dynamics were clearly reproduced on even the most complex orchestral recordings, and if you listened carefully to low-level passages, the faint haze or noise you hear from many digital recordings and other DACs was less apparent.

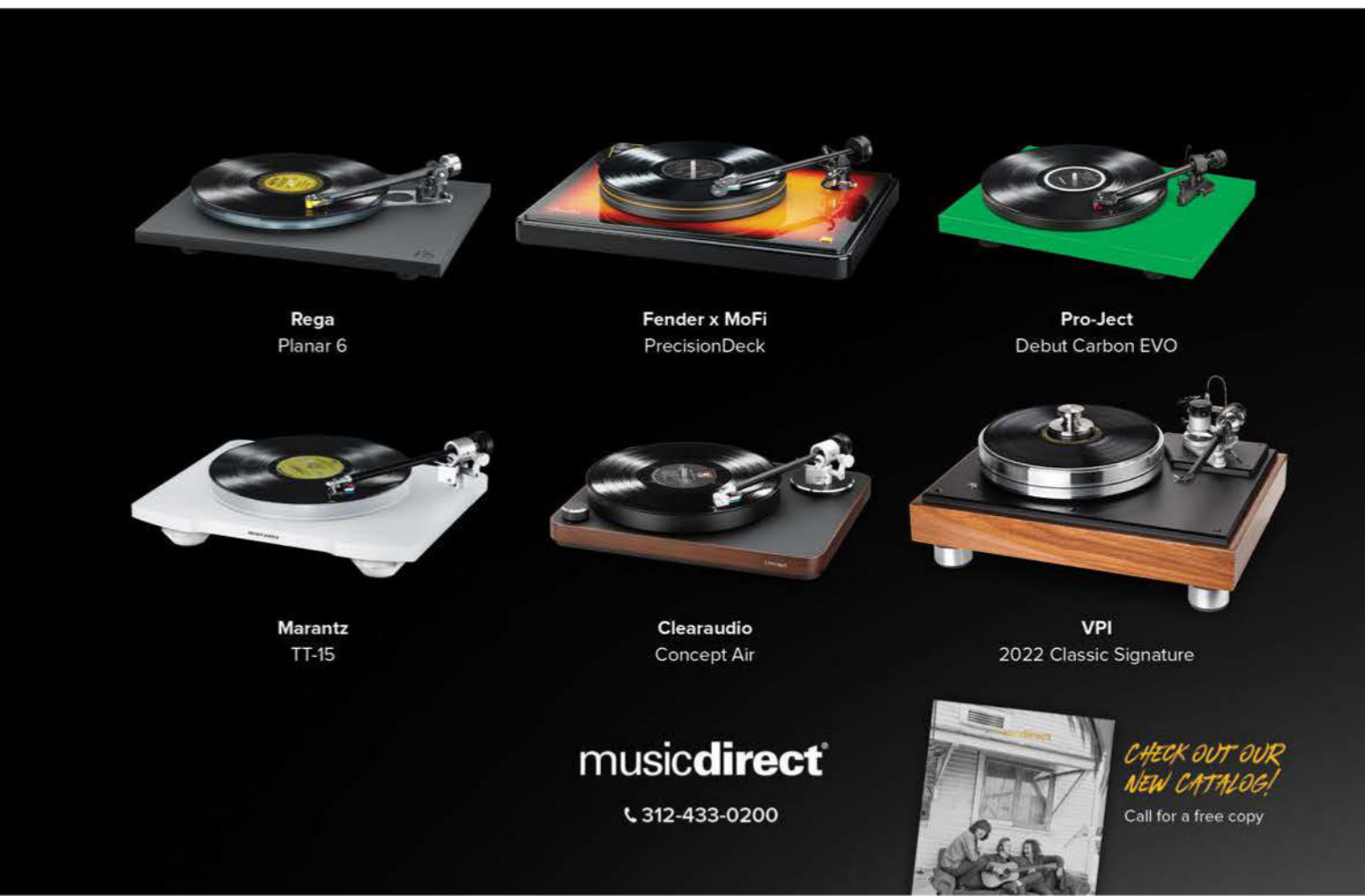
Because of its superior transparency, the MK2s also did a better job of showing which recordings really did benefit from higher bit and sampling rates, the sonic benefits the best SACD and DSD recordings have over most PCM recordings, and the often-minor sonic differences between recordings of the same performance on different streaming services.

I should note, however, that the Mk2 is not euphonic in any respect. Its superior performance with good recordings will call your attention to the problems in mediocre or bad ones. It also raises the same questions as other top DACs about the extent to which some digital recordings that are claimed to have higher sampling and bit rates are recorded and then produced at such rates. Several recordings that claimed to be hi-res didn't seem to live up to their label when I compared them to really good recordings, and one has to wonder if such recordings had only been upsampled or lost some of their detail by being assembled or altered by their sound engineers.

Finally, the level of synergy and superior nuances I encountered in my system was not unique. The DirectStream MK2 performed well in the systems of several of my friends with very expensive digital equipment, who voice and adjust their systems to emphasize different musical nuances and who have far more interest in popular music and immersive recordings. If you get the opportunity to audition the MK2, I suspect you'll hear the same advantages that I do.

Summing Up

The PS Audio DirectStream DAC MK2 is a truly excellent unit whose sound exemplifies the increasingly subtle advances being made in digital technology. As is always the case, these advances will continue, and I cannot promise you "pure, perfect sound forever," any more than Sony and Phillips could 40 years ago. However, the PS Audio DirectStream DAC MK2 shows that digital has made immense advances over time. I was particularly impressed with the sound of SACD and DSD, even when it was compared to the best PCM recordings. It is now one of my reference DACs.



Paul McGowan and the History of Digital Audio

IT IS interesting to note that the DirectStream DAC MK2 digital-to analog converter has a history almost as old as TAS. For those of you who don't know the history of PS Audio, its beginnings were focused on analog electronics and on phono. In fact, HP told me about Paul McGowan—one of PS Audio's founding partners—when he and his first partner were developing a phono preamp.

Few people have now had as much experience in designing and producing analog and digital, and I couldn't resist asking Paul what he now thought of the earliest days of CD sound.

Paul's comments about the first CD players and discs matched both HP's views and mine, but he went on to trace the evolution of digital sound to its current level of performance, and I think this makes an interesting side note to this review. I should note that his comments on PS Audio products do reflect the pride (or bias) that I find top high-end manufacturers always feel in their products, but they also provide an historical perspective that both suits TAS's 50th anniversary and is a useful introduction to the Perfect Wave Direct Stream DAC MK2.

"PS Audio jumped on the CD bandwagon early. Not long after the first CD players were launched by Philips (marketed in this country as Magnavox) and Sony, we released one of the very first high-end CD players, the PS Audio CD-1. To build this product, we purchased off-the-shelf Magnavox players, ripped out the unit's internal DAC and output stage, and replaced them with our own designs.

"It's perhaps instructive to remember that when digital audio first launched, there was no such thing as higher resolution, upsamplers, or anything resembling what we are blessed with today. What we were listening to were steep 'brick wall' analog filters that were 'flat' to 20kHz and many dBs down at 22kHz. Those filters were rife with audible phase shift and were partly responsible for the harsh and brittle sound quality of CDs.

"Couple the not-so-great-performance of those early CD players with the emerging infantile digital audio recording technologies of the nearly 1980s, and it's no wonder Sony's claim of 'Perfect Sound Forever' was the laughingstock of audiophiles.

"Before long, Yamaha, Philips, and Sony had launched new digital audio chips that upsampled digital audio by factors of 4x and even 8x, along with new digital filters. These early upsamplers and DSP technology made a significant sonic improvement because they allowed DAC designers to move away from brickwall analog filters and turn instead to gentle noise filters that had no impact on the audible band.

"At the same time, A/D technology also advanced so that recordings were getting better too. By the mid-to-late 1980s, when digital audio pioneering high-end audio companies began producing separate DACs that could take the SPDIF output of off-the-shelf CD players and make great sound, we were gaining steady ground on analog systems.

"In the 1990s, chip manufacturers like TI, National, ESS, and Analog Devices began marketing complete DAC chips that greatly broadened the marketplace for outboard D-to-A converters. Unlike those earlier DACs that relied upon cobbling together disparate chips and expensive hybrids.

"These early DAC chips were ladder DACS, meaning their conversion mechanisms were a 'ladder' of 16, 18, and even 20 precision resistors switched in and out by active current switches. They were at the theoretical limits of what was possible in DACs.

"In the early-to-mid 2000s, we started seeing higher bit-depth chips from these same manufacturers. Now, instead of being limited to 20-bit resolution, we were seeing 24- and even 32-bit resolution—something technically not possible with ladder DACs. These new chips were using Sigma Delta Modulators (essentially DSD) to achieve their higher bit depths. Along with higher bit depths we were also treated to higher sample rates, with these new chips capable of speeds up to 192kHz at 32-bit resolution.

"Suddenly, digital audio leaped ahead of analog, at least in resolution and dynamics (though in fairness, even the first CD players had an easy 20 to 30dB greater dynamic range than the best analog). As DACs and digital audio became more mainstream and people sold or retired their collection of albums for CDs, more and more audiophiles jumped on board the digital bandwagon.

"While all this was going on the inventors of the CD, Sony and Phillips, weren't sitting on their haunches. In the mid-1990s, as an alternative to the Pulse Code Modulation (PCM) encoding used in CDs, Sony and Philips began working on the next great leap in technology: DSD. DSD offered a significantly higher sampling rate of 2.8224MHz (as opposed to CD's 44.1kHz) and a 1-bit depth. The SACD format was officially introduced in 1999, and the hybrid SACDs around 2001. Hybrid discs contained both a standard CD player and a high-resolution DSD layer.

"Before too long, all modern DAC chips were using a form of DSD in their SDM's before conversion to PCM. The chips got bigger, faster, more complex. But, because of the inherent limitations of a DAC on a single piece of silicon (like heat and size constraints), a few pioneers began looking at alternative ways to build even better solutions with higher sample rates and better sonics.

"One such pioneer was our own Ted Smith. Smith, a long-time advocate for the superior sonics and higher resolution of DSD started toying with the idea of staying in the PDM (DSD) domain entirely. To do that (as opposed to converting back to PCM, as all modern DAC chips do), he would need to move away from off-the-shelf chips and build his own based on hand-written software. Smith turned to a type of customizable integrated circuit called a FPGA (Field Programmable Gate Array).

"Using an FPGA gave him the freedom to design anything he wanted, and he did. The results of that groundbreaking work were launched in PS Audio's first all-DSD FPGA-based DAC called the DirectStream. This product revolutionized the sound of DACs as well as allowed us to break free of the constraints of off-the-shelf chip-based DACs." tas

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AVANT-GARDE INDEED

AVANTGARDE ACOUSTICS TRIO G3 LOUDSPEAKER

BY JACOB HEILBRUNN

THIS PAST OCTOBER, I TRAVELED TO GERMANY to visit the Avantgarde Acoustics factory in the quaint village of Lautertal, where I was quickly introduced to a rare historical object—a mint condition "agave green" 1956 VW Beetle, complete with turn signal bars that are flipped by hand, that serves as the unofficial company car. Somehow being ferried around in this venerable product of the post-war German *Wirtschaftswunder*, or economic miracle, seemed entirely appropriate.

Like the Beetle, Avantgarde loudspeakers are a tribute to Teutonic efficiency, able to play with just a few watts of power. Like the Beetle, they're based on fairly simple technology. And like the Beetle, they attract more than a few onlookers and admirers for their fetching looks and performance. But there the similarities end. Avantgarde loudspeakers are also prodigiously powerful products capable of delivering not simply finesse but also enormous plumes of sonic fortissimos that will have the walls of the stoutest stereo room quivering and begging for mercy.

It all goes back to Avantgarde founder Holger Fromme's avidity for open-air rock concerts during his youth—his dream was to recapture the same overpowering sensation in the home environment. The only speaker design capable of truly realizing Fromme's oneiric vision was a horn loudspeaker that could handle the kind of punishing blasts delivered by the likes of his musical heroes, Pink Floyd and Genesis. Fromme, you could say, wanted a wall of sound when he listened to *The Wall*. And he got it.

Avantgarde has steadily improved the appearance and performance of its loudspeakers, but they have often met with incomprehension or outright hostility in America, where the

dynamic driver has held pride of place since the 1960s. The high-end industry has focused, more or less, on producing fairly inefficient loudspeakers with ever-more-powerful amplifiers in train to compensate for the watts that get burned up in complicated crossover networks. Horn loudspeakers offer a radically different and more environmentally friendly approach, one that I was always intrigued by as I read up on loudspeaker and tube designs over the history of high-end audio.

As it happens, I first stumbled across the Avantgarde phenomenon several decades ago while strolling in the Frankfurt Airport between flights. No, I didn't literally walk into it, but a large glass display loomed before me that immediately captured my attention. It featured a blue set of large horn loudspeakers that looked like something out of a Pop Art exhibition. (Had Andy Warhohl, who illustrated a number of jazz albums in the 1950s, ever gotten a load of these beauties?) I was smitten both by their outlandish appearance and the promise of superlative performance that an accompanying brochure guaranteed.

It wasn't until I heard the Avantgarde Trios at an audio show in New York in 2000, however, that I truly began to understand what the fuss was all about. At that event, Steve Bednarski of Balanced Audio Technology explained to a large audience that we were about to transported into the very sonic heavens by a multichannel setup of Avantgarde Trio loudspeakers. Perched in the front and rear were enormous horns powered by BAT tubed gear. Soon enough, the opera singer Jose Carreras' voice, backed by a chorus, was floating through the room about as convincingly as I had heard vocals sound. It was goosebump territory.

Over the ensuing years, I embarked upon an audio odyssey that included listening to a passel of loudspeakers from everyone from Wilson to Aerial Acoustic, from Magnepan to Sonus faber. Lodged somewhere in the back of my mind, though, was a lingering memory of the Avantgarde loudspeakers. Periodically, I heard them at my friend Ali Leeman's homes in California. I heard various iterations of the Trios over the past 20 years or so but always came away thinking that the combination of beauty and the beast had never been fully reconciled. The imaging was a little iffy and the treble a little abrasive. "Get off the beach!" my pal Ron Rambach, the proprietor of Music Matters, always loved to exclaim when I mentioned Avantgarde loudspeakers, which was to say that he thought they resembled a lifeguard wielding a bullhorn. There matters rested.

Or did they? About two years ago, I started hearing rumblings that Avantgarde had completely redone the Trios—new drivers, crossover, as well as a tweeter that could be slid fore and aft for fine-tuning. A visit to Toronto, where the North American importer Angie Lisi of American Sound has an Avantgarde Trio G3 system ready for demo at almost

any hour, seemed in order. I corralled my chum Michael Fremer, who has always looked askance at horns, to join me on the expedition, *et voilà*, we showed up at Lisi's expansive home near her store in the rustic suburbs of Toronto to saturate ourselves in the Avantgarde sound. There I became acquainted with the loudspeaker's dual identity. It can be run either with an internal iTron—a three-channel single-ended push-pull current-mode amplifier that locks onto each driver, allowing you to dispense with speaker cables—or a more traditional setup with an external amplifier of your choice that runs through the Trio's passive crossover. Listening at Angie's was enjoyable but not dispositive, as the seating position, not to mention the low ceiling, in her basement room was too close to the loudspeakers for the tastes of yours truly. A test-drive in my own home appeared more imperative than ever. After several months of expectant waiting on my part, a freight truck filled with no fewer than 8 large crates appeared at my home, and the festivities commenced.

With the Wilson WAMM Master Chronosonic loudspeaker system from Provo, Utah, that I've been using for a good five years looming tall in the background, how did Lautertal stack up against Provo? Very well, indeed. The alacrity, scale, and dynamism of the Trio G3 came as no surprise to me. But there were a number of other things that did. The longer I listened, the more impressed I became by the prowess of the Trios. The result was that I…but why put the cart before the horse?

One of the most longstanding cavils about horn speakers has been their colorations which, in my experience, manifest themselves as shrillness in the treble, something that I find well-nigh intolerable, and discontinuity between drivers, a phenomenon that audibly reduces the sensation of listening to a live event and converts it into a jarring one. It is my firm conviction that the Trios have rendered those issues pretty much moot when you run them with your own amplifiers.

With the iTron it was a different story. Several reviewers, including Eric van Spelde in a superbly comprehensive review of the Duo GT in the German publication *image hifi*, have extolled the iTron. I cannot. It's an ingenious device that may eventually, in a fresh incarnation, surpass the performance of an amplifier mated to the Trio's passive crossover network, but I could not produce the requisite bloom and musicality that classical and jazz music possess. The iTron creates a wide soundstage and may well be faster than any other amplifier I've heard, all of which made it a gas to listen to rock and pop music for a time. But for classical and jazz, I simply could not warm to the iTron. In chamber music, for example, the violin and viola sounded far steelier than anything resembling the real thing. If anything, it evoked the sensation for me of walking across the frozen tundra and hearing the crunch beneath my boots.

With more conventional amplification, the very first thing that I noticed after installing the Trios was that they possessed a liquidity, particularly in the treble, that I had not hitherto experienced. Put otherwise, I was braced for a prolonged and strenuous break-in experience that would involve grinning and bearing it when it came to the treble region. That turned out not to be the case. The treble was quite smooth and the midrange warmer than I had expected. And no, it wasn't because I was using some mushy SET amp that rolled off the high end. Initially, I employed both the iTron and the nifty Swiss darTZeel NHB-468 monoblock amplifiers, both firmly solid-state. If anything, I felt that the Trios revealed a new and entirely felicitous tube-like warmth in the darTZeel, a product of the speaker's 109dB sensitivity and 19-ohm load. The amp, in other words, was simply loafing, allowing it to flash its crystalline, pure, and filigreed control of the musical signal—much to my delight.

Here it befalls upon me to dispense with another myth, as long as we're dispensing with myths. While it is true that the Trios mate beautifully with SET amplifiers (including the 8-watt BWS 6384 monoblocks), there is no cogent reason to shun deploying higher-powered amplifiers on them as well (something, incidentally, that Viktor Khomenko, the chief designer at BAT, who has his own set of Trios at home, mentioned to me years ago). They provide extra grip and slam that can be quite exhilarating. Another (relatively) high-powered piece of gear that I used on the Avantgarde was the Pathos InPol Legacy integrated amplifier, which weighs 309 pounds and puts out 100 watts of pure Class A power. While I do think it is true that more than a few high-powered amplifiers would fail to cut the mustard with the Trios, it is not because of the loudspeaker's sensitivity or any inherent shortcoming on its part; rather, these horns ruthlessly expose everything upstream, and the blunt fact is that packing dozens, if not hundreds, of transistors into an amplifier may not always be the best recipe for sonic bliss. A slight occlusion, blurring, and haze tends to accompany such heroic efforts to produce a ton of juice to get dynamic speakers to take off from the landing pad.

Which gets us to one of the most agreeable characteristics of the Trios. I've made no secret of my soft spot for German Lieder, or art songs, in the past. I'm fluent in German, but listening to the greats of the past, such as Fritz Wunderlich or Dietrich Fischer-Dieskau or Elly Ameling, not to mention contemporary singers like Benjamin Appl, I've had

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to rely on the accompanying booklet containing the lyrics of the works they are performing. What a pleasure it was to be able to dispose of those guides and sit back and revel in the songs, fully comprehending every last syllable! For that is what the Trios did. The transient precision of the Trios, which I ascribe in large part to their extreme efficiency, means that the amplifier is loafing along in its comfort zone, reproducing every syllable, no matter the frequency, with a degree of verisimilitude that was and remains simply jaw-dropping.

The wonderful lucidity of the Trios also translates into something else that I sensed but couldn't quite put into words. It was my fellow TAS reviewer Alan Taffel who put his finger on it when he visited me to audition the Trios. "It swings," he simply said after I played him a sassy rendition of Wynton Marsalis playing Louis Armstrong's "St. James Infirmary," which has been recently released. The reason it swings isn't merely because of the Trios' transient precision. That precision is also a direct function of the speed of the loudspeaker. The wealth of microdetail means that you hear the rhythm of the music to a remarkable extent. What I'm trying to say is that the Avantgarde doesn't produce detail as an end itself but as a means of profound musical communication. You hear what appears to be every shading in Marsalis' voice on the album *Hot Fives, Hot Sevens*, a tribute to Louis Armstrong's magnificent recordings from the late 1920s, as he sings the lyrics to "St. James Infirmary" or the extended quaver he produces through his mouthpiece, turning it almost into the equivalent of a wah-wah pedal. Something similar happened on the song "Weary Blues," which features an interplay between banjo and tuba at what seems like lightning speed. Nary a pluck from the banjo, nary a belch from the tuba seemed to go missing. There is also a certain ineffable lightness that accompanies that lightning speed, a fetching characteristic that never makes it seem like the music is getting bogged down, whether it's a jazz band or an orchestra playing.

The easy load that the amplifier faces means that the tonality of the Avantgarde—again another question-mark for many auditors of this loudspeaker—was seldom less than exemplary. As a fan of the German trumpeter Matthias Hofs, who I think may not get his due here in America, I greatly enjoyed a variety of his recordings, whether with the German Brass Band or his solo performances of Bach and Vivaldi. The Trios nailed the piping quality of his playing of

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ASSOCIATED EQUIPMENT
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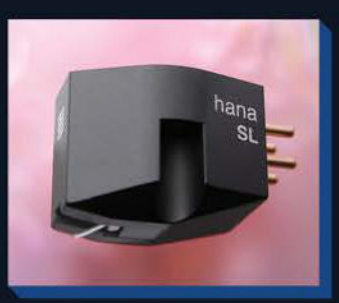

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The Trio and SpaceHorn setup in Jacob's room.

the piccolo trumpet, not to mention his extremely expressive style, derivative of the Italian opera *cantabile* style. Talk about getting closer to the emotional essence of the music!

Even as it is capable of extreme finesse and a spooky recreation of *pianissimo* passages, the obverse side of the Trios is that they can also bring down the hammer. I've never heard a brass chorus, as Paul Seydor mentions in his sidebar, sound more thrilling, more—dare I say it?—testicularly convincing than on the Avantgardes playing the fourth side of the Decca LP set of Wagner's *Siegfried* opera. Sir George Solti liked to let it rip, and it's hard not to be taken aback by the sheer power of the brass section as delivered by the six—yes, six—Spacehorn woofers. These formidable critters, each boasting its own internal Class D amplifier, feature two 12" drivers per unit, meaning that I have a total of twelve 12" drivers in my room. There is no replacement for displacement, as the old saying goes. While the space horns don't go down much below 20Hz—which is why you can, if you wish, supplement them with a REL sub-bass woofer—they supply resolute and resonant bass. There really is no limit to how many can be used apart from room size. Avantgarde's Armin Krauss is eager to add another (gulp!) six to create an uninterrupted front wall of space horns.

Still, integrating them into your system to blend in successfully with the front pair of speakers is not for the faint-hearted. Avantgarde supplies a passel of indispensable digital controls to adjust them. When Avantgarde's Armin Krauss alighted on my doorstep, he spent a good deal of time aligning them. Alas, as the bass woofers broke in, they needed, in my estimation, a complete overhaul, as they were overwhelming the front pair of loudspeakers.

Who better to summon than J.R. Boisclair, the head of WAM engineering? I had very good results when J.R. took a whack a few years ago at improving the integration of my Wilson subwoofers, so I felt little hesitation about letting him loose when he happened to be in the Washington area. The entire experience reminded me of why I've always been a proponent of pulling the bass out of the main loudspeakers in *any* four-tower system—the separation of the bass woofers from the front speakers helps to solve a lot of issues, ranging from vibrations to efficiency. We had full control from about 200Hz on down, which most loudspeakers, even four-tower ones, will not permit you to do. This wasn't the bass horns as a Band-Aid at the bottom but as a full-fledged participant in the sonic affair.

Boisclair spent a full day grappling with my predicament, studying waterfall plots and the time decay of the bass woofers. The results were hard to quarrel with. Very hard. When he was done, the midrange and treble opened up further and any residual lumpiness in the nether regions, as the late HP liked to call them, were banished. Take the Pablo album *Basie Jam*. On the cut "Hanging Out," Ray Brown's bass sound as though it is doing just that. The Trios captured his bass line with tremendous clarity and grip, even as the muted trumpet of Harry Edison plangently sounded the opening runs of this easygoing tune.

Even the imaging was better than expected. Nope, it's not the pinpoint source image that you'll get from a Wilson or a Rockport. Nor is the bass as, for lack a better, organized as what I got with the WAMM. But this loudspeaker comes as close to giving you it all as these little ears have heard.

Throughout, the lack of distortion of the loudspeakers was palpably evident on album after album. It was the ability to maintain the octave-to-octave balance that commanded my attention. There was a sense of ease, a lack of strain, a feeling of infinite headroom, even when trumpets were playing in the treble region, that was utterly beguiling. Perhaps the greatest showcase for the seemingly unlimited abilities of the Trios was an EMI LP featuring Paavo Berglund conducting *Finlandia*. Even Fremer was wowed—by the depth of the double basses, by the sweeping power of the brasses, and by the dynamism of the tympani. These are not your grandfather's Avantgardes. Instead, the company has set a new benchmark for performance—one that left me no choice but to take the plunge and purchase them. When it comes to loudspeakers, Avantgarde truly is avant-garde.

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Paul Seydor Comments

FOR THE BETTER PART OF MY 54 YEARS AS an audiophile, I have avoided horn-loaded loudspeakers for the usual reason: horn colorations. Not that I didn't appreciate their principal virtue: efficiency that translates into deafeningly loud playback levels on meagre wattage with little or no sense of strain. A corollary to this is that they make music sound really big, bold, and colorful, amazingly dynamic, extraordinarily present, and, for want of a better word, "liberated"—from the usual constraints that beset the quest for wider dynamic windows. By comparison, many other kinds of speakers, particularly those of medium and lower efficiency, both pale and sound pale. I should point out that in my career as a film editor I have four decades professional experience with horns because most of the mixing stages where I supervise the final sound mixes of the films I've edited are equipped with large, high-efficiency horns. But what works for large venues like mixing stages and movie theatres doesn't for home listening, at least for me, because I find the basic horn sound itself neither neutral nor natural tonally, and to my ears not especially musical and rarely pleasing.

All that changed about a month ago when I had the opportunity to audition a pair of the latest version of Avantgarde Trios, the company's flagship all-horn system, in a private home, set up, adjusted, and tweaked to the nines, with four (!) of Avantgarde's massive horn-loaded Spacehorn woofers, buttressed by the biggest REL subbass system for truly subterranean bass. I didn't go with a "show me" attitude—I never want anything to sound bad—not least because my interest in Avantgarde Trios was already piqued by my friend and colleague Jon Valin's enthusiastic TAS review several years ago of an earlier version (Google "Jon Valin Avantgarde Trio"). But despite best efforts, I was never able to audition a pair until this recent experience. To say I was impressed might be my understatement of the year: I was invited back, which I accepted eagerly, then I asked to come back a third time.

My time with the Trios was brief, about four hours total over three visits, the source material always vinyl, the owner, an audiophile of long experience and an avid vinyl enthusiast, extremely knowledgeable about recordings and music, with a library of, I'd guess, around 10,000 LPs, many, if not most of them vintage, notably strong in opera, show music, and all sorts of voice from traditional American popular music (e.g., Sinatra) and jazz. His turntable setup (Continuum with top Lyra pickup) was done by a world-class expert, J.R. Boisclair of WAM Engineering. I also brought along several of my favorite reference recordings.

First, dynamic range. What I heard from this setup in a large but not immense room was without question the widest dynamic range I have ever heard from a home audio system. The reproduction was also the freest, most effortless in my experience—I was about to write the "least strained and constricted," except these characteristics were nowhere in evidence (unless it was in the source material). Headroom was limitless. How much power did this require? The main amplifiers were Berning Hi Fi One Edition 20-watt SET References with Ypsilon silver chokes. The combination made me wonder if most of the very large speaker systems in my experience, driven with enormous amounts of power, didn't exhibit a subtle, or not so subtle, sense of strain and effort that are completely absent from the Trios. Clarity was likewise state of the art, at least in my experience, with eye-popping detail yet without sounding analytical as such. The Solti *Ring* Cycle, the sensational *West Side Story* 2020 soundtrack, Billy May's antiphonal brass on Sinatra's *Come Swing with Me* (which just leap out from the speakers), the fabulous new *Oklahoma!* from Chandos (on vinyl)—anything and everything I played on this setup was reproduced at any volume level with reach-out-and-touch-you tactility, presence, life, liveliness, body, and three-dimensionality like almost nothing I've ever heard.

One key phrase in the previous sentence is "at any volume." A related loudness issue with dynamic drivers, at least to some degree, lies at the other end of the loudness scale, namely tonal drop-out at very low levels, where at some point the combination of low efficiency, the drivers themselves (their mass, their materials, magnets, who knows what else), and maybe the additional circuitry in extremely powerful amplifiers all conjoin to rob the music of some presence, transparency, and body. (I believe Jacob will have a few things to say about the effects of very high-power amplifiers on transparency.) Some electrostatics, notably my beloved Quads, are immune from these effects, but they also have serious loudness limitations.

I've heard from colleagues who've attended Avantgarde Trio rooms at audio shows that the playback levels are frequently so loud they couldn't stand to be in the room for more than a few minutes. While it is understandable that the manufacturer or its dealers should want to show off the Trio's remarkable capabilities in this regard, I cannot emphasize strongly enough that if you have the opportunity to audition these speakers properly set up in a room that can accommodate them, do try to do some serious listening at moderate and low volumes, where they are equally, if not more impressive. Also, bear in mind that extremely loud sustained levels over long periods still involve a very real risk of hearing damage.

Soundstaging and imaging are state of the art. The aforementioned Chandos *Oklahoma!* was recorded in a theater with a judicious microphone placement that results in a completely natural perspective. Set the volume at a level that is realistic—truly realistic, not audiophile "knock your socks off"—and you feel you're sitting in the ideal seat in a real theater hearing a live performance. The

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soundstage stretched across the room, rendition of depth was realistic—I could close my ears and believe I was in a theatre listening to a live performance: "stereo" in its root sense of solid.

What of tonal balance and coloration? The Trios are probably not completely free from horn colorations—I don't know that that's possible—but the colorations themselves, such as exist, are low enough that never did they intrude upon my enjoyment of the considerable virtues of the speakers—indeed, I was never particularly aware of them. Whether they would become bothersome with longer exposure I cannot say, but I can say something about the Trio's tonality and timbre. One of the principal things that separates electronically reproduced music from the real thing is that with the latter, tone, timbre, the basic character of voices and acoustic instruments do not change with changes in level. This is also true of the Trios, to a degree almost unique in my experience. Meanwhile, the overall tonal balance struck me as falling within the bounds of what I call "acceptable neutrality"—at no point did frequency-response anomalies distract me from the music.

Bass response in terms of power, reach, slam, definition, detail, and clarity is again the best I think I've ever heard in a home music system. One of the things the owner played is a passage from *Siegfried* scored for the instruments that reach into the bowels of the orchestra. Registration of timbre, clarity, detail, and presence were to take the breath away. Accuracy requires I report that the owner of this system hired Boisclair to perform his room-optimization service, which at this location consumed 11 hours. I heard the setup before and after. Bass was quite excellent before; afterward, the improvement was astonishing (worth every penny).

I don't care for most large speakers. Especially as regards extremes of loudness, I tend to find them merely assaultive, rather than realistic as such. The Avantgarde Trio exhibits none of this characteristic. The owner likes to listen at rather louder levels than I do, but this setup is so clean, so low in distortion, so effortless that I found I could easily tolerate high levels without discomfort. I don't envy my colleagues most of the speakers they have to review, especially the monster ones, but I surely envied Jacob this assignment. At the opening of this comment, I said I was impressed by the Trios—that was mere footling. Truth is—I was blown away.

Manufacturer Comments

Avantgarde Trio G3 Loudspeaker

A heartfelt *Dankeschön* from Lautertal Germany and our associate North American distributor American Sound of Canada, Angie Lisi, to TAS and Jacob Heilbrunn for a thorough test of the Trio G3.

Jacob's preference for external amplifiers over our own integrated three-way current-amplification option is well understood, and his description of the musical results certainly speaks for itself. However, we have seen a growing interest in active loudspeaker systems over the last few years, and this has given us the opportunity to apply our unique iTRON current-drive technology, developed over 10 years, a technology that is virtually unrivaled by that of any other manufacturer today.

Our approach, which already accounts for almost 50% of the speakers we sell today, is to offer a physically precise and unique "avantgarde" technology that provides the user with an integrated system with the ease of connection of an active speaker system. Most importantly, we will continue our efforts to provide the physically advanced and best solutions for our customers. Simply avantgarde.

Armin Krauss
Avantgarde Acoustic Customer Support

Thank you to *The Absolute Sound* and Jacob Heilbrunn for the lovely review and the opportunity to demonstrate the sonic results we achieved. Armin's expertise created such great sound in Jacob's spectacular audio room. The Trio G3 came alive from the first note, only to get even better with time.

Angie Lisi
American Sound of Canada

MoFi SourcePoint 8 Loudspeaker

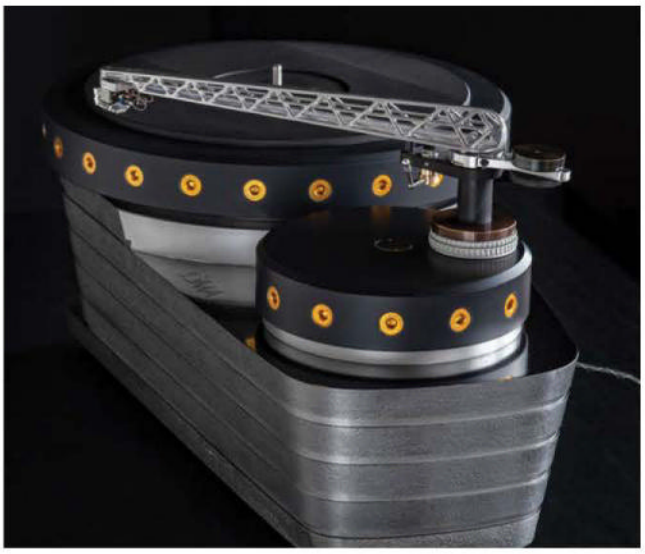
I like Neil's description: "An upfront character, romantic, rich, weighty." I thought he was describing me for a moment, but then I realized he got the rich part wrong. I also like the comment about the presentation being tangible. It has been an observation that has struck me working with concentric drivers and is something that I always strive to attain.

The reference to the TAD Compact Reference was very pertinent, as it remains my all-time favorite speaker, and I still consider it a target as I design my subsequent speakers. The SourcePoint 8 may not have quite the same technology, exotic materials, and price, but it does have a pedigree.

Andrew Jones
Chief Loudspeaker Designer
MoFi Electronics

Oswalds Mill Audio K3 Turntable

Richard and I thank both Jacob and TAS for the very favorable review, our first time in the pages of your magazine in our 17 years of doing business. OMA is truly an audio company, not a loudspeaker company, amplifier company, or turntable company. We engineered the K3 and now K5 turntables, at enormous cost in time and resources, simply because we knew there was so much more music in the grooves of our records.



As the review largely speaks for itself, the only thing Richard and I wish to add is on the difficult subject of time-domain response. As your readers are accustomed to belt-drive turntables and reviews which largely ignore this extremely important issue: A vinyl record only contains amplitude information; the turntable itself is responsible for the time-domain information, i.e. keeping precise speed despite the record groove modulations slowing the platter. This directly affects the perception of transients, decay, overall precision, etc. The time domain is arguably more important than amplitude, especially when discussing a turntable (and not a tonearm or cartridge, which trace amplitude). The turntable should be seen as contributing half the sound when playing a record—the time part. It seems the review tends to confuse this issue, giving us credit (thank you!) for excellent frequency response and pitch. That is something a much lesser turntable is capable of; the ear/brain can easily and quickly correct for amplitude issues, not for time-domain problems. So, while we are very happy to receive credit for having a very, very accurate turntable, we'd like to point out it's the K3's time-domain accuracy, ensuring a lack of short-term time issues, which all belt-drive turntables suffer from (when a complex passage or transient is transcribed by the system), that is really what is at stake here. Jacob writes: "What accounts for the precision of the 'table? Weiss and Krebs point to the inherent drag that exists with a belt-drive turntable when it has to power through a complex orchestral passage, one dense with brass crescendos and string sections playing at full tilt. The result is a subliminal time misalignment that the ear interprets as sonic confusion."

It is our contention that the inability of a belt-drive turntable to maintain constant speed in the face of complex material and the ensuing drag on the rotational system is not subliminal; it is entirely audible. Perhaps this will help people better understand how important short-term speed stability is to vinyl playback.

Jonathan Weiss, CEO/Founder OMA
Richard Krebs, Designer K3

Manufacturer Comments

Benz Micro Ruby Z Cartridge (from Issue 345)

Thank you to Wayne Garcia and TAS for the excellent review of the Benz Micro Ruby Z. Mr. Garcia perfectly describes the ruby-plate generator and offers a great technical explanation of why it offers such a high level of performance. The Ruby Z sits between the Benz Gullwing and the flagship LP-S in terms of price and performance potential. While the Ruby Z is usually regarded as the warmest of these three, the LP-S is a very close second, taking what the Ruby Z does and adding another level of refinement and particularly accurate bass response. The Gullwing on the other hand, is the free-wheeling, open-air cousin of the Ruby Z, offering an immediately fresh and engaging sound. We are confident that one of these three flavors of the ruby-plate generator will bring you as much listening pleasure as they bring us!

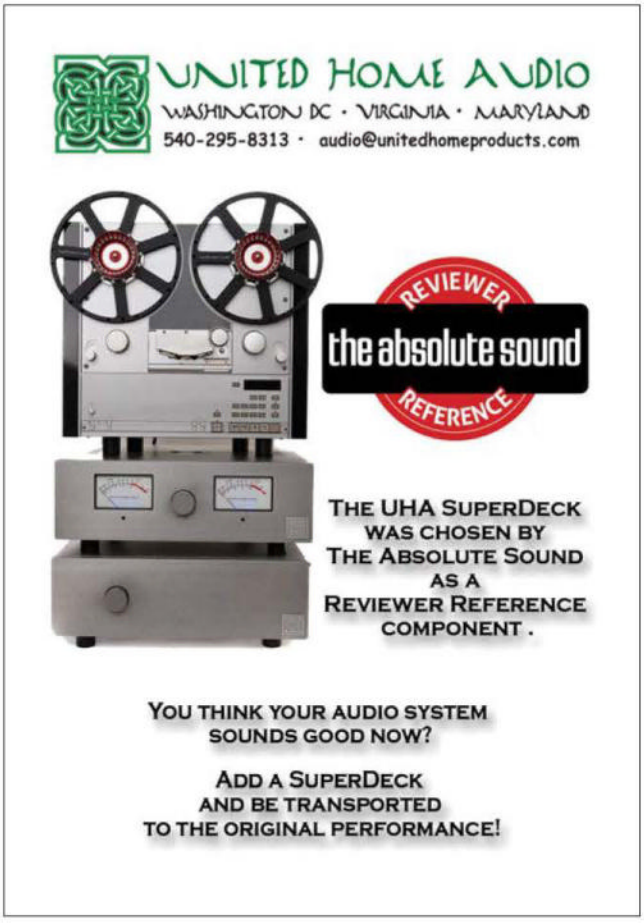
Michael Fajen
Sierra Sound

Larsen Model 4.3 Loudspeaker

We want to thank Robert Greene for his great and insightful review. Given Robert's vast theoretical and practical loudspeaker knowledge—combined with the fact that he is a professional violin player, who really knows what musical instruments sound like—it is especially gratifying to get such a glowing review from him.

We also want to expand a little on an important fact that Dr. Greene brings up—how Larsen speakers actually perform in a room. Buying a conventional speaker can be very gratifying. But if you are not able to place them far enough from sidewalls and backwalls, and/or can't do extensive sound treatment and/or can't sit in the center of the triangle between you and the speakers, then the conventional speakers will never perform close to their full potential, or the way you heard them at a showroom. Unlike conventional speaker designs, the Larsen speakers will always have correct, defined, and deep bass when placed against the wall and will not need any sound treatment; nor will you be forced to sit dead center. (See Robert's review for details on how and why.)

John Larsen
Larsen speakers



GERARD SCHWARZ and the ALL-STAR ORCHESTRA

The World's Best Orchestra? Could Be.

Andrew Quint

Let's see. You joined the New York Philharmonic as associate principal trumpet at the age of 25, departing after seven years to establish a successful conducting career, with music director appointments around the globe. You took over a good regional orchestra, transforming it over a quarter-century into a world-class ensemble. You serve as artistic director for a summer music festival that attracts hundreds of talented young people every year. You've composed your own music and produced useful arrangements of other's work. You've made more than 350 recordings, championing new music and neglected corners of the symphonic repertoire, notably 20th-century American composers. What could you possibly do for a next act? Well, if you're Gerard Schwarz, Conductor Laureate of the Seattle Symphony and currently Music Director of the Palm Beach Symphony, you could decide to create from scratch what is arguably the best orchestra on Earth.

In 2012, Schwarz first convened the All-Star Orchestra, a full-sized symphonic group comprising top players from about 30 American ensembles. The musicians represent the most elite orchestral organizations—Chicago, Philadelphia, Boston, New York, Cleveland, LA, San Francisco, the Metropolitan Opera, the National Symphony, Seattle (of course!), Minnesota, Baltimore, Cincinnati, and another 20 of only slightly lesser stature. Late

each summer, the players meet up at SUNY Purchase, a tranquil campus about 45 minutes north of Manhattan with a large performing arts center that includes a 1372-seat concert hall known for having excellent acoustics. An old friend of mine had served as Schwarz's music librarian for several decades and continues to follow the maestro's activities closely. She arranged for me to observe a day of recording/filming at Purchase that saw Gerard Schwarz—"Jerry" to just about everyone he works with—leading five works: the Saint-Saëns "Organ" Symphony, Schubert's "Unfinished," a Bach Prelude and Fugue arranged for orchestra by Ottorino Respighi, *Fanfare for the Uncommon Woman #6* by Joan Tower, and David Diamond's *Rounds* for strings.

After six hours of intense music-making (and the hard work of filming and recording those efforts), the 76-year-old Schwarz didn't seem the least bit spent—quite the opposite, he was obviously energized and ready to answer questions in his dressing room. I began by asking why, after such a lengthy and productive career, he had undertaken as demanding a project as the All-Star Orchestra.

"I was in Seattle for 28 years, 26 of them as Music Director; Principal Conductor and Artistic Advisor for the first two," he told me. "When I signed my last contract, I was about 60 and I thought 'Well, I could stay here for the rest of my life.' The Board chair said 'If you want to stay here forever, you can stay here forever.' That was very tempting because I love Seattle—I love the orchestra, I love the community. But I also felt we had built the orchestra to a very high standard, we had built a great concert hall [Benaroya Hall]—we'd really had a very positive effect on the city."

Schwarz continued. "I felt that I had done the Big Jobs—building the orchestra, building the audience, making a lot of recordings. I wanted to do something else in my life, to climb another mountain. My wife and I talked about it—'So, what do you want to do?' I wanted to have, as much as possible, a positive effect on new audiences. I wanted to try to help foster the next generation of music lovers and also to help the older generation that can't get to concerts anymore. I thought the best way to reach as many people as possible was through public television. It's free. Everybody has public television.

"You can't get people interested in classical music if they've never heard it. You can go to free outdoor concerts but I wanted people to feel like they were in the middle of it. I thought that if I could create an orchestra of stars, it wouldn't be associated with a particular city. A problem we have is "It's a New York show, it's a Chicago show, it's an LA show." The only orchestra on television 10 years ago was the New York Philharmonic, on *Live From Lincoln Center*. I thought we should spread it out. We basically have 30 orchestras here. We record here in New York but it's not a New York show. It's a national show."

Jerry Schwarz is known to be an avid baseball fan. Was naming the group the All-Star Orchestra meant to bring up associations with sports, especially the National Pastime? "Yes! When we first did it, there were those who said 'Oh, it should be the All-Star *Classical* Orchestra or the All-Star *Musical* Orchestra to differentiate it from sport. I said 'No. We want to make it popular, we want no barriers.' Like sports—all-star baseball, all-star basketball."

For the 2023 edition, the group recorded and filmed 10 pieces over the course of two days to be broadcast by PBS in the fall, issued on DVD, and made available for free to anyone with web access as hour-long YouTube videos with surprisingly good audio quality. Schwarz feels that an educational component is an important aspect of his mission and insightful and to-the-point commentary before each performance is provided by musicologists (including, on previous videos, the dynamic Leon Botstein of Bard College) and by Schwarz himself. ASO has partnered with the Kahn Academy, a non-profit that usually offers online math and science tools for classroom teachers; it's estimated that more than seven million students have experienced the All-Star Orchestra as a result.

There is typically no rehearsal of the music to be filmed and recorded. (Only once did I witness Schwarz go over with the first violins a short passage that wasn't jelling.) With the Saint-Saëns, the first piece on the ASO's schedule for the day, Schwarz played through the opening first movement without stopping and then repeated large sections that later could be utilized either as primary material or as "patches." With the main Allegro moderato that follows the brief slow introduction, it can be challenging for conductor and players to get the 16th note figurations for strings and winds to lock in and establish a pulse. It was close to perfect the first time through—better than with some finished recordings I've heard—and got better still on subsequent takes, with greater unanimity to dynamic inflections in addition to flawless metric precision.

This steep learning curve was especially evident with less familiar music, for example, the Joan Tower piece, for which the composer was present and gently made a recommendation regarding tempo. In addition to being fully prepared himself, Schwarz attributes the speed at which unfamiliar music is mastered (or an emotionally satisfying reading of a warhorse achieved) to the players' superior technique as well as to the level of commitment that's in the air on the Purchase stage. In a typical professional orchestra, even a very good one, Schwarz has observed that a string player towards the rear of his or her section can occasionally find it difficult to be completely "involved" with the job at hand. "You may not like the interpretation, you may not like the conductor, you may not like a lot of things," Schwarz notes. "You may be tired. You may have had a fight with your husband or your wife. Who knows what? But coming here, everybody knows they're going to be on television, that the camera's on you. Yes, we pay

well, but nobody's here for the money. Everybody's here because they want to be here. They know what hard work it is.

I joined the musicians in a large atrium for a buffet lunch between the morning and afternoon sessions, and it was very clear that the players were enjoying themselves. Was scheduling a few days that would be both stimulating and fun for elite symphonic musicians part of the founding goals for the All-Star Orchestra? Schwarz commented: "For players who haven't seen each other since high school, or conservatory, or college, to get together is a thrill. And then to play for each other—I mean, do you realize that [for the second violins] the Principal of the New York Philharmonic is No. 1 and the Principal from Baltimore is No. 2? Occasionally, you get egos. Last year, we had the principal bass player of Boston and the principal bass from New York on the same stand. The principal from New York was an old friend of mine and I could go to him and say 'Would you consider doing this?' And he said 'Sure.' You've got to be careful, especially when you have so many concertmasters. Who sits where? It's a little tricky sometimes. But everybody wants to be here."

What gets recorded? Is there a "master plan," in terms of repertoire? "Yes, this is how we started. We said, 'Look, we want to have a library that has, as much as possible, something by every major composer who wrote for orchestra.' Try it when you get home—write down the 100 [pieces] that you think are the most important. What you're going to find is that you're going to leave out a lot of people because a hundred's too few. Nothing that we've recorded these two days is a duplication. We had no Saint-Saëns. We had no Schubert. Of course we had no Diamond. Think of all the composers we haven't even touched!"

The imperative to record a representative portion of the core repertoire notwithstanding, Schwarz has been sure to include many shorter works by living composers, music by Philip Glass, Ellen Taaffe Zwilich, Bright Sheng, Adolphus Hailstork, and many others. One piece had its world premiere on an ASO broadcast—the Violin Concerto of Samuel Jones with Anne Akiko Meyers as soloist.

Arriving at the Performing Arts Center that morning, I'd been directed to make my way to the second balcony of the Concert Hall and I positioned myself in the front row. The sound was richly textured, weighty, and detailed. Schwarz had configured the orchestra as he usually does—first and second violins split right and left, string basses stage right. Winds in two rows in the middle of the capacious stage. Across the back, on a riser, French horns were stage right, trumpets, trombones, and tuba stage left, percussion between them. This made for a sonic presentation where I was sitting that was both expansive and transparent, one that reproduced all the color and dynamic power these musicians brought to every note, measure, and phrase. The character of the sound in the hall is fully communicated by the many YouTube videos posted online. The video editing is brisk but not dizzying and reflects a true understanding of musical structure and contour. The conductor isn't deified, as is too often the case with classical video. Watching the YouTube videos from previous years, there are no shots of Schwarz with his eyes closed, transported to some other dimension. Rather, the high-definition video—director Habib Azar has eight onstage cameras to work with—delineates the collaborative nature of the best large-ensemble music making in a no-nonsense sort of way.

In one of several ASO trailers you'll come across online, a cellist from the Philadelphia Orchestra says to the camera, "I had no idea it would be quite this good. This is probably the highest level orchestra I've ever played with." Is it impolitic for a musician whose health insurance is provided by a Big Five orchestra to say such a thing? Undoubtedly. But you can tell from the smile on his face and the sparkle in his eyes that the guy means it. Of course there have been other more profound interpretations, other performances that—even allowing for individual differences in taste—sing, blaze, or soar to a greater degree. But Gerard Schwarz and the All-Star Orchestra have had a success rate that's second to none and, in the process, they've advanced the cause of large-scale symphonic music. The world's best orchestra? They certainly belong on the All-Star ballot. tas

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Archival Set Traces Joni Mitchell in Transition

Greg Cahill

A 5-CD set, ***Joni Mitchell Archives, Vol.*** *3: The Asylum Years (1972–1975)* opens with Joni Mitchell tuning an acoustic guitar and sharing a girlish laugh with David Crosby and Graham Nash before sharing a raw version of "Cold Steel and Sweet Fire," her ironic ballad about ex-boyfriend James Taylor's heroin habit. A subsequent fly-on-the-wall session, recorded a few weeks later, finds Mitchell sharing laughs with Taylor on an impromptu medley of "Boney Moronie," "Summertime Blues," and "You Never Can Tell."

Move over Taylor Swift—this legendary Canadian singer-songwriter wrote the rules of the relationship song.

This third edition of the Grammy-winning Warner/Rhino anthology series gathers rare demos, early sessions, alternate takes, and lots of live performances. The CD collection, also available on vinyl and in digital formats, includes a sumptuous 40-page book with rare photos and a conversation between Mitchell and journalist Cameron Crowe. Engineering wiz Henry Lewy, a longtime associate of Mitchell, recorded many of the tracks. Michael Graves, Jamie Howarth, and John Chester worked on audio restoration (Plagent Processes was used on two tracks). Bernie Grundman remastered the collection.

This treasure trove of songs spotlights a fertile period that produced Mitchell's most commercially successful albums but also saw her stretching musically: 1972's *For the Roses* and 1974's *Court and Spark*, as well as her 1975 foray into impressionistic jazz, *The Hissing of Summer Lawns*. Throughout, Mitchell's uncompromising creativity remains constant. "Her appeal is in the subtle texture of her toughness, and her readiness to tell secrets and make obscure and difficult feelings lucid and vocal," *Rolling Stone* opined in a 1973 review of *For the Roses*. "She breaks your heart and makes you tentatively smile. She is the leading lady in a personal pageant of Heavy Duty, tension-bound romance. The poetry of her love songs sets her almost on some other planet, some separate plane where there are no inhibitions about divine arrogance, no compunctions about laying the inside of her on the line."

Mitchell created music on her own terms, even as she grew disenchanted with the music industry.

Still, on the *For the Roses* period, her early albums are well-represented on *Archives, Vol. 3*. For example, tracks from a 1972 Carnegie Hall concert include intimate—and often breathtaking—solo renderings of such fan favorites as "Both Sides Now," "The Circle Game," "Big Yellow Taxi," "Blue," "For Free," "A Case of You," "Carey," and "Woodstock," as well as the then-unreleased "Banquet" and "For the Roses." That latter song, she tells the audience, is a reference to the rose wreath placed on a winning racehorse before they take him out back to shoot him.

The *Court and Spark* sessions, with guitarists Larry Carlton and David Lindley onboard, are no less revelatory. The studio album, released in 1974, after a two-year hiatus, spawned Mitchell's last pop hits. The *Archives* set includes a stripped-down demo of "Help Me," her biggest hit, and a priceless solo-acoustic version of "Raised on Robbery," as well as an early band version of that song with Nash and a lo-fi version with Neil Young & the Santa Monica Flyers (aka Crazy Horse) from 1973's *Tonight's the Night* sessions. Young and his *Harvest*-era Stray Gators also contribute a rockin' recording of "You Turn Me On, I'm a Radio." Mitchell completes her CSN&Y affiliation by joining Stephen Stills on an alternate take of "Blonde in the Bleachers."

A 1974 date at the Dorothy Chandler Pavilion in Los Angeles highlights Mitchell's transitional collaboration with jazz saxophonist Tom Scott & the L.A. Express, as she stretches out on such pop hits as "For Free," "Woodstock," and "For the Roses." A second 1974 live recording includes an early version of "Jericho," which wouldn't make it onto a studio album until Mitchell's adventurous jazz-heavy 1977 outing *Don Juan's Reckless Daughter*.

Demos from *The Hissing of Summer Lawns* include a spin on the experimental Rousseau-inspired song "The Jungle Line" and an early version of "Dreamland." Appropriately, "Dreamland," which closes the box set, opens with the lyric "It's a long, long way from Canada/A long way from snow chains." It had been just a decade since Mitchell, who hailed from the icy, wind-swept plains of Saskatoon, Alberta, had fled the insular comfort of Toronto's folk scene for New York City to become one of the most influential singer-songwriters of her generation.

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Nirvana's *In Utero*

Thirtieth Anniversary Edition Delivers the Sonics

Alan Taffel

When Nirvana finished mixing its third and, tragically, last studio album, 1993's *In Utero,* it sent copies to a close circle of friends to get their take on it. Half the recipients loved it; the other half were, shall we say, muted in their enthusiasm. Listening to the album now, 30 years after its release, it's easy to understand that informal focus group's reaction. Half of the album is intentionally repellent, meant to send all the fans of the band's smash hit *Nevermind* running for the hills. The other half is brilliant.

Why did Kurt Cobain, Nirvana's frontman, songwriter, and creative engine, revel in alienating his newest fans? He had no respect for them because, looking back on it, he had no respect for *Nevermind.* Most rock historians consider that album a game-changer that made grunge accessible to the masses. And even today, songs like "Smells Like Teenage Spirit" retain their unique combination of sticky melody and raw power.

But Cobain didn't see it that way. He saw *Nevermind* as a slick, pandering, overly radio-friendly sellout. With *In Utero,* he was intent on regaining what he felt was lost cred. To that end, he hired producer Steve Albini, who boasted a galaxy of indie, punk, and grunge albums to his name. The goal was to come up with something far more unvarnished than *Nevermind.* As it turned out, Albini at times went further into grunge madness than even Cobain could stomach. On several of the album's best tracks, such as "Heart-Shaped Box" and "All Apologies," Albini slathered on so much noise it was impossible to hear the vocals. Cobain had to send out these tracks for a remix, a highly successful decision.

Right from the start, Nirvana alerts the listener that this is no *Nevermind* follow-up. Like the Beatles' "A Hard Day's Night" 30 years earlier, *In Utero* opens with a single struck chord. But unlike the tantalizing chord heralding the Beatles' first film soundtrack, this chord is twisted, bastardized, intentionally ugly. It's as if Nirvana is saying, "Nevermind *Nevermind.*"

Cobain says as much when, at the start of "Serve the Servants," *In Utero*'s opening track, he snarls, "Teenage angst has paid off well/Now I'm bored and old/Self-appointed judges judge/More than they have sold." In one stanza he manages to repudiate *Nevermind,* signal a change of direction, and convey his revulsion for the record industry.

Thus begins the topsy-turvy experience of listening to *In Utero.* Half the tracks are little more than primal scream therapy set over melodically challenged backdrops. But the other tracks are fully formed, still fresh-sounding, and among Cobain's best—which is saying a lot. I personally would not consider my record collection complete without "Heart-Shaped Box," "All Apologies," "Serve the Servants," and "Dumb." In sum, despite its sometimes-repellent gestalt and often-nihilistic lyrics, *In Utero* has more than enough going for it to make it a must-have collectible.

Which brings up the question of which version to own (or stream). That decision is made more complicated by the presence of not one but *two* deluxe anniversary editions—one made at the 20-year mark and the other, just released, at age 30.

The 20th anniversary release should have been everything fans were hoping for: the original album in hi-res; a completely new mix by Steve Albini; outtakes and early versions of many tracks. Unfortunately, this version misses the mark. The new mix is by turns pointless and arbitrary. Imagine "Dumb" without its cello accompaniment. Well, you don't have to imagine it; you can hear it here—and it ain't good. Nor does this mix significantly improve the overall sound. Finally, the outtakes are of academic interest, intended for those who care about the evolution of songs that are pretty uncomplicated in the first place.

Fortunately, we now have another, far more satisfying anniversary edition. First, the mix. Gone are Steve Albini's random revisions. Instead, the new album reverts to the original mixes, which is how the band wanted these songs to sound. However, to improve the sonics from the 90s smudge of the original, engineer Bob Weston, who was Albini's assistant engineer on the original sessions, was brought in to remaster the album.

Weston had access to the original analog master tapes, and has done a superb job of clearing out the recording's grunge while leaving the musicians' grunge intact. The album, in this version, has far more weight and a much wider soundstage. It's also easier than ever before to hear the bass line. Weston has thoughtfully included the most meaningful outtakes from the 20th anniversary edition, and cleaned them up as well.

To top it off, the deluxe versions of the 30th anniversary edition contain two live concerts. Both concerts are master classes in smart, rebellious rock and bring home the oft-overlooked talent of this trio as musicians. The sound differs between the two concerts, but both recordings are warm and direct, having been newly mixed and mastered from the soundboard tapes by Jack Endino.

Finally, we have an *In Utero* that delivers the sonics, the superb songs, and the live impact that America's pre-eminent grunge band deserves. This one is highly recommended.

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The Beatles in Red and Blue

Expanded Compilation Boasts Better Sound

Neil Gader

Even by Beatles standards it was a stunning announcement—that in 2023, Apple Records was releasing a previously unheard John Lennon tune, and that the finished song, titled "Now and Then," which was originally recorded as a demo in Lennon's Dakota apartment in 1978, had been performed by all *four* Beatles. Touted as the last Beatles song, its journey from Lennon's rough demo to an authentic Beatles release was indeed a long and winding road. The story goes something like this:

Previous attempts at recording "Now and Then" actually date back to the mid-90's during the "Free as a Bird" and "Real Love" sessions, but technical problems with Lennon's soft, low-level vocal on the cassette demo derailed the project, and it was placed on the back burner. When George died in 2001, it was shelved, perhaps permanently. However, in 2021 in the wake of the Peter Jackson-directed and acclaimed *Get Back* documentary, Paul began to consider whether the same "de-mixing" audio technology that Jackson's team had implemented might be applied successfully to Lennon's demo tape.

Cue Peter Jackson and Wingnut Films to the rescue. Employing MAL audio software (Machine Audio Learning), Lennon's muffled vocal was separated from the overbearing piano and sprung onto its own track. This allowed the song to be properly produced, including a new Ringo drum track, McCartney's new bass track, and George Harrison's original acoustic guitar, a Harrison-influenced slide guitar part by Paul, and ultimately strings and vocal harmonies.

More of a coda than a career capstone, "Now and Then" (available as a double A-side 7-inch single with "Love Me Do") is not Lennon's finest by a long shot. But the ballad's heartfelt simplicity, Lennon-esque musical twists, and lyrical wistfulness is a touching reminder of what has been lost. When the song is partnered to Jackson's haunting, time-traveling music video—a surrealistic dreamscape of 60 years of John, Paul, George, and Ringo—it manifests the greatest impact. Against a backdrop of the sessions at Capitol with Giles Martin and Paul at the control desk, Jackson incorporates footage from Apple's archives of the original 1995 recording sessions and from rare clips courtesy of Beatles family members. Its final moments are powerful—a collage of black and white stills and video from 1960's concerts—the screaming, stomping hand-waving fans from a stage balcony become a nostalgic wave of farewell. The boys on stage in their collarless suits, taking a final bow, the light fading until all that remains is the Black Oyster Ludwig drum kit alone on its riser. A somber sense of finality.

Contemporaneous with "Now and Then" is the re-release of the "Red" and the "Blue" compilation double albums. Produced in the 1970's following the band's break-up, they were considered "gateway" albums, and designed to introduce the Beatles to new generations of fans. Mixed and mastered by Giles Martin and Sam Okell at Abbey Road Studios, LP versions of "Red" and "Blue" have each been expanded to three half-speed mastered, 180-gram LPs (purchased together they're presented in a slipcase cover). Also available are digital formats, and Dolby Atmos in some instances.

The expanded compilations reflect a more complete survey of The Beatles' work. "Red" has 12 additional tracks, including some of George Harrison's earliest songs and some classic Beatles versions of R&B and rock 'n' roll hits. "Blue" has nine additional tracks, including "Blackbird" and of course "Now and Then." While most of the songs from the band's later work (beginning with *Revolver*) have been recently remixed and/or remastered, sonically the real treat is the very early recordings. Hearing the 2023 stereo remixes of early mono tracks like "I Saw Her Standing There" and "Twist and Shout" or *Rubber Soul*'s "Norwegian Wood" truly tells the tale. Once peaky vocals are smoother, a soundstage is defined, harmonies are detailed, and the clarity of the bass and drum figures are far superior. "Twist and Shout," for example, rocks like never before—Lennon's throaty vocal was never as vivid or present. The original British monos still may win on pure immediacy, but these close the gap. If you grew up listening to the American pressings in processed, hard-panned stereo, these are stunners and worthy additions to any Beatles collection.

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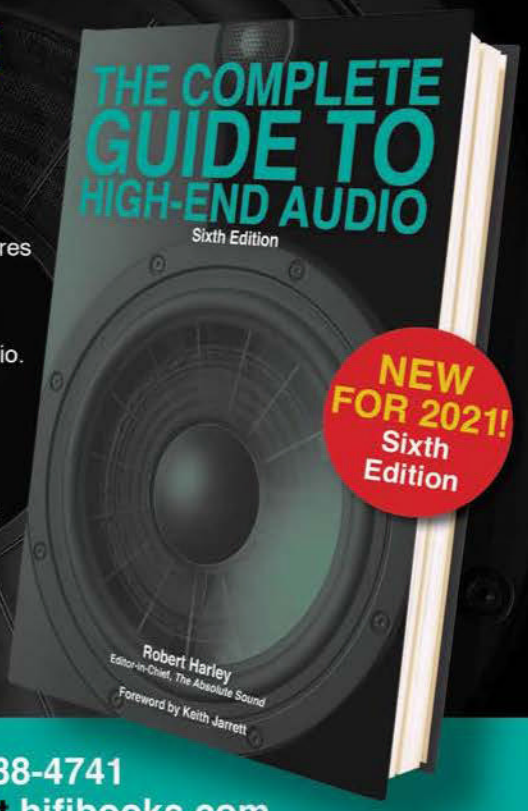

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Never Mind Pro Tools, Here's the White Stripes

Elephant Comes Roaring Back

Jeff Wilson

The third album by the White Stripes, *Elephant* was released in 2003, and it's the record that took from hipster darlings to mass appeal. Looking back, it's worth noting just how anachronistic the album was when it came out—and, at the same time, how prescient. Consider how, for example, two touchstones from that period—The Flaming Lips' *The Soft Bulletin* (1999) and Radiohead's *Kid A* (2000)—made ample use of the latest technology when it came to recording. Pro Tools had both streamlined the recording process and made editing options seem endless (and *way* simpler than with tape), and those were just two of many bands exploring the myriad options awaiting them. Meanwhile, the White Stripes recorded all but one of the 14 tracks on *Elephant* on a duct-taped eight-track machine in London's Toe Rag Studio, where no computers were involved in the recording process and all of the equipment was pre-1963. Clearly, then it was "old school," as they say—so how on earth was *Elephant* prescient?

Well, consider this: the album was released in 2003. At that point vinyl sales had not yet reached the end of their downward spiral, but they were nearly there, as they bottomed out in 2005 and 2006. The resurgence that began shortly thereafter—and which caught everyone by surprise—is much more Jack White than Pro Tools, if I can put it that way. Because the vast majority of record pressing machines were sold for scrap by the time vinyl became popular again the number of artists recording in analog has remained finite, but there's no question that, without diving into all the technical minutiae, the spike in interest in vinyl reflects a return to certain values—and, interestingly enough, Jack White has played a central role in that transition with both the label and the vinyl pressing plant for Third Man Records.

The impact of *Elephant* also stems from the fact that the method of recording and the finished product perfectly matched the musical styles on those 14 songs. It would have been one thing if, say, the Pet Shop Boys had decided to record an all-analog album in 2003. On *Elephant*, all of the genres that got smashed together—including 50s rock, garage rock, punk, blues, bluerock, even a Burt Bacharach cover and a recycled Mamas and Papas chord progression—emerged prior to the digital age. The record's mass appeal also had to do with its connection to classic rock, and I can testify to that. While listening to *Elephant*, I flash back to those high school days when my friends and I drove around listening to crunchy guitar rock on eight-track tapes in a vintage Thunderbird (1963, to be exact). The scenery? Corn fields, farm houses, barns. I visualize those things when I hear *Elephant*, and as for that roach clip in the glove box—well, let's not go into that.

The beauty of *Elephant* is that it blended together all those earlier styles yet sounded immediate and vital and fresh. It still sounds fresh 20 years later, and, naturally enough, my ears perked up when news arrived that Analogue Productions was cooking up a 2-LP 45rpm remastered edition of the record. Playing off of the original *Elephant* artwork with its limited color palette (red/black/white), this deluxe edition is a nice-looking package that includes a 12-page booklet complete with liner notes by Ben Blackwell and photographs from the recording sessions. But let's not kid ourselves: the meat of the matter is the sound. This *Elephant* was remastered from the original analog master tape by Ryan K. Smith at Sterling Sound, and the platters were pressed on 200-gram Clarity vinyl at Quality Record Pressings. For all the chatter about aural subtleties that only elite audiophiles are able to suss out, I should come right out and say that you don't need Golden Ears to hear the virtues of this remastered wax. The sound Jack White and drummer Meg White sought was gritty, raw, direct, and bold, and that's what the UHQR delivers, with a beefy bottom end and plenty of grit, but I'm never disoriented. When I caught the White Stripes during the *Elephant* tour, more sound sprayed out of the loudspeakers than the club was able to handle; the effect was disorienting (and at the same time exhilarating). The trick with "Seven Nation Army," "Ball and Biscuit," "The Air Near My Fingers," and "Girl, You Have No Faith in Medicine" is capturing that billowing sound without getting lost in all the noise, and *Elephant* accomplishes that. If *Elephant* is a master course in dynamics, Bacharach's "I Just Don't Know What to Do with Myself" is the final exam, and the UHQR passes the test with flying colors. Being sucker punched never felt so good.

I should also note that the virtues of the remastered vinyl aren't limited to the barn burners. Consider, for example, "You've Got Her in Your Pocket," where Jack accompanies himself on acoustic guitar. Here the warm, natural, tonally accurate, in-the-room sound underscores the singer-songwriter talents of this Jack-of-all trades. Equally intimate is "In the Cold, Cold Night," where the sound is remarkably transparent and alluring, Meg's voice especially.

The White Stripes knew what they were doing when they recorded *Elephant*, and because Analogue Productions stayed true to the intentions of the original album, they also got it right. "Your turntable isn't dead," Third Man likes to remind people. Play this *Elephant* and your whole stereo will spring to life.

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MUSIC ●●●●● SONICS ●●●●○

Sufjan Stevens: *Javelin.* Asthmatic Kitty.

Sufjan Stevens has long been a master of juxtaposing of beauty and horror that exists in all of our lives. On *Javelin*, some of his most beautiful melodies to date are used to convey lyrics filled with grief, longing, self-doubt, and criticism, yet the record is overflowing with grace and love. For Stevens, love has always underscored his work and especially when he's exploring darker topics. *Javelin* is no different. Dedicated to his partner, who passed away earlier this year, the record is a raw, honest excavation of relationship highs and lows and love's proximity to pain. Despite the weight of tragedy that accompanies the record, however, it is easy listening and arguably sounds happier than his last few releases. With Stevens returning once more to his folk roots, many moments call back *Illinois* (2005) and *Seven Swans* (2004) but with dense symphonic accompaniments reminiscent of *All Delighted People* (2009) and *Planetarium* (2017). Every song is intentional and intimate, but the last four— "So You Are Tired," "Javelin," "Shit Talk," and "There's A World"—are truly exceptional in conveying the record's complex heart. *Javelin* feels like Stevens' reminder to himself and to us that even in the darkest night, the day will still come. **Jerika Hayes**

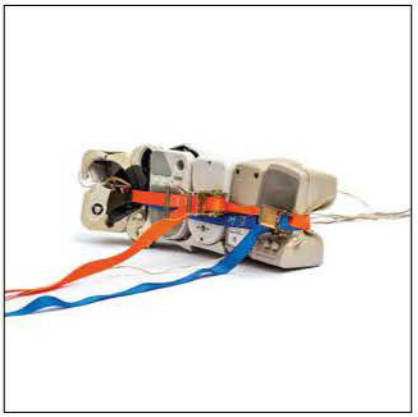
Further Listening: Joanna Newsom: *Divers*; Fleet Foxes: *Shore*; Nickel Creek: *Celebrants*

MUSIC ●●●●◐ SONICS ●●●●○

Mitski: *The Land Is Inhospitable and So Are We.* Dead Oceans.

On her seventh album, *The Land Is Inhospitable and So Are We*, Mitski guides us through murky, nature-filled ruminations of love and life, reminding us again why she is one of the best songwriters of her generation. The chamber-pop infused folk album feels like an outgrowth of the atmosphere created on 2018's *Be the Cowboy*, mixing austerity and simplicity with bombastic, dissonant moments. The world she crafts here is intimate yet restrained, and her emotionally probing songs have never felt more carefully calculated. The album is co-produced by Patrick Hyland, and the mixing is what sets it apart from her other work. Her usual crystal-clear vocals are interestingly buried at times, and much of the album feels blurry, hazy, and opaque—like viewing something through a dirty window. The intentional production choices along with her delicately incisive songwriting really shine on "Buffalo Replaced," "My Love All Mine," the dark "I'm Your Man," and possibly her best closer to date, "I Love Me After You." *The Land Is Inhospitable and So Are We* feels like Mitski's least personal album lyrically but is perhaps her most personal musically, as her methodology this time still manages to communicate a potent expanse of feeling while saying, really, very little. **JH**

Further Listening: Wednesday: *Rat Saw God*; Haley Heynderickx: *I Need to Start a Garden*



MUSIC ●●●●○ SONICS ●●●●◐

Oneohtrix Point Never: *Again.* Warp Records

Conceptualized as "a speculative autobiography," the tenth studio album from Oneohtrix Point Never's Daniel Lopatin explores the possibilities of his varied electronic palettes from the past 16 years through collage-like vignettes. *Again* combines the uncanny tranquility of his earliest records with the increasingly fragmentary qualities of his more recent work, creating a sense of dueling identities wrestling for the namesake of Oneohtrix Point Never. Tracks such as "World Outside" begin explosively with samples that distort the calm he was known for in his albums such as *Betrayed in the Octagon* (2007) and *Russian Mind* (2009). Others present a hypnotic flow, like "On an Axis," only to shift midway into something more rhythmic and percussive akin to *Magic Oneohtrix Point Never* (2020). Depending on the moment, the music can feel adoring and poignant ("Ubiquity Road") or destructive without discrimination ("Nightmare Paint"), as if witnessing Lopatin both embrace and obliterate his previous musical self. At times, the swings between styles can feel jarring and disjointed, but that is part of the point. Throughout *Again*, we witness the metamorphosis of an artist as if rapidly scanning through radio stations, catching only splinters of his history before being thrust into another time. **Hannah Blanchette**

Further Listening: Laurel Halo: *Atlas*; Tim Hecker: *No Highs*; Emeralds: *Solar Bridge*

MUSIC ●●●●◐ SONICS ●●●●◐

Mary Lattimore: *Goodbye, Hotel Arkada.* Ghostly International.

Inspired by the renovations of a beloved Croatian hotel, Mary Lattimore's newest album, *Goodbye, Hotel Arkada* reflects on the fleeting nature of that which surrounds us. The harpist and composer encourages patience, allowing weightless textures to float within each atmosphere she conjures. Lattimore delicately balances this airiness with focus and direction, crafting gradual shifts in instrumentation and melody that push the compositions toward their conclusions. Every piece is distinctive, in part due to her collaborations on four of the six tracks. Meg Baird's wordless vocals haunt the background of "And Then He Wrapped His Wings Around Me" and Lol Tolhurst (The Cure) winds his synth lines around the harp-like twine on "Arrivederci." Amongst many moments that can steal your breath, the subtle build of "Blender in a Blender" took mine away for the track's nearly seven minutes. The arpeggiation of Lattimore's harp persists as Roy Montgomery folds in his plaintive guitar harmonies, increasing their presence slowly until the track's emphatic close. Even the little details, like the glimmering intro to "Music for Applying Shimmering Eye Shadow" and Samara Lubelski's wispy, dissonant violin slides on "Yesterday's Parties," create wistful pangs in the chest, summoning our own fleeting memories to mind. **HB**

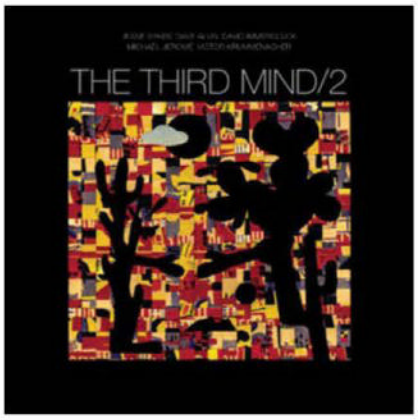
Further Listening: Meg Baird & Mary Lattimore: *Ghost Forests*

MUSIC ●●●●● SONICS ●●●●●

Cat Power: *Cat Power Sings Dylan: The 1966 Royal Albert Hall Concert.* Domino.

In 2022, indie-rock singer Cat Power (aka Chan Marshall) traveled to London's Royal Albert Hall to recreate Bob Dylan's legendary 1966 Manchester Free Trade Hall concert (early bootlegs incorrectly had attributed the venue to the Royal Albert Hall, and it stuck). The original concert drew heavily from *Bringing It All Back Home*, *Highway 61 Revisited*, and *Blonde on Blonde* and found Dylan switching midway through the concert from acoustic to electric guitar, and Cat Power follows suit. Over the years, Dylan has been a touchstone for this artist—she has visited his works several times on record and in concert. But clearly, the woman *LA Weekly* dubbed "The Queen of Sadcore" was born to record "Visions of Johanna" and "Just Like a Woman." On those tracks, and such classic songs as "Like a Rolling Stone" and "Ballad of a Thin Man," she deftly evokes the bard's yearning mood and lyrical brilliance. The result is one of her finest vocal performances and a great Dylan cover album. Grammy-winning engineer Rob Schnapf (Elliott Smith, Beck) expertly captures the live ambience to offer a delicate, airy sound that draws you into these stunning performances, especially on the acoustic numbers. **Greg Cahill**

Further Listening: Cat Power: *The Greatest*; Bob Dylan: *The Bootleg Series Vol. 4*; Odetta: *Odetta Sings Dylan*



MUSIC ●●●●● SONICS ●●●●●

The Third Mind: 2. Yep Roc.

When guitarist Dave Alvin put together an all-star band for 2020's *The Third Mind*, it could have been a quite satisfying one-off project. He still plays his bedrock country- and folk-rock with the Guilty Ones and Jimmie Dale Gilmore, but fortunately he has doubled down on this psychedelic project with bassist Victor Krummenacher, guitarist/keyboardist David Immergluck, and drummer Michael Jerome. With singer/acoustic guitarist Jesse Sykes fully integrated as lead vocalist, the Third Mind sounds like a bona fide ongoing band. Except for the Sykes-Alvin original "Tall Grass," the material is once more drawn from sixties-era acid-folk-rock-and-blues—songs by the Electric Flag, Dillard and Clark, the Paul Butterfield Blues Band, the Jaynetts ("Sally Go Round the Roses," covered by Pentangle in 1969), and Fred Neil ("A Little Bit of Rain," five minutes of gorgeous melancholy to the close the album). Sykes comes naturally to the blend of raw emotionality, vulnerability, and steely resolve of such forbears as Grace Slick, Julie Driscoll, and Jacqui McShee. With L.A. jack-of-all-musical-trades Willie Aron adding piano, Hammond B-3, and Mellotron, the sound is again dense and swirling, but not so sticky-thick that the electric guitars don't slither, snarl, slash, and skyrocket into extended solos out of the phantasmagoric mix. **Derk Richardson**

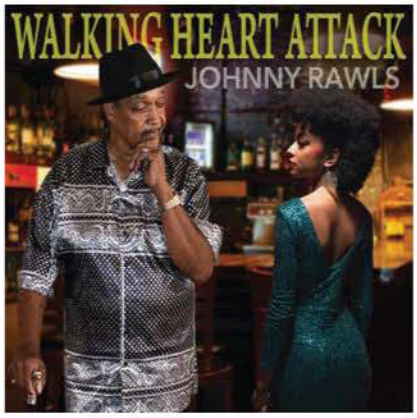
Further Listening: Victor Krummenacher: *Silver Smoke of Dreams*

MUSIC ●●●●○ SONICS ●●●●○

The Rolling Stones: *Hackney Diamonds.* Universal.

The Stones' first studio album of original material in 18 years rocks hard. The sessions are highly charged—a potent mix of modern production, nostalgia, and boundless heart and soul. Jagger, 80, sounds youthful, timeless, and fully committed—his standout power-ballad with Lady Gaga ("Sweet Sounds of Heaven") is a stone-cold vocal powerhouse. That highlight and the slide-driven slow blues "Dreamy Skies" could fit right into *Some Girls* or *Emotional Rescue*. Richards sings lead on his solid hard-luck ballad "Tell Me Straight" while Stevie Wonder, Paul McCartney, Elton John, and Benmont Tench add instrumentation to several tracks. But the classic Stones sound rings throughout these spirited sessions: Keith Richards' trademark open-G guitar riffs kick off the opener ("Angry"). and new drummer Steve Jordan delivers swinging Charlie Watts-like beats on "Get Close." Watts, who died in 2021, can be heard on "Mess It Up" and with ex-Stones bassist Bill Wyman on "Live by the Sword." Fittingly, the album closes with a raw acoustic cover of Muddy Waters' "Rolling Stone Blues." If *Hackney Diamond* turns out to be the Stones' swan song, the band will have ended its epic 60-year run on a high note. Still, don't count them out. **GC**

Further Listening: The Rolling Stones: *Forty Licks*; Muddy Waters: *Hard Again*



MUSIC ●●●●○ SONICS ●●●○○

Johnny Rawls: *Walking Heart Attack.* Catfood.

As, arguably, the preeminent practitioner of soul blues, Johnny Rawls offers a short course in how it's done right, with wit and passion, on *Walking Heart Attack*. The Rawls-penned title track (co-written with Bob Trenchard, founder of Catfood Records and the bassist in Rawls' stalwart backing band, the Rays) sets the tone in kicking off the festivities with a jittery rhythmic thrust, pumping horns, and a flirty female chorus (Janelle Thompson and Shakara Weston) setting the stage for Rawls' hefty vocal describing a knockout gal he has his eyes and heart set on. Settling into a deep, driving, horn-fueled southern soul groove on "Trying to Live My Life Without You," a tune associated with the late Otis Clay, Rawls is at his expressive best in delivering the lingering ache of a bad breakup. By the third song, Rawls' own self-empowering soul ballad, "Free," he's contemplating shaking loose from life's surly bonds and materialism to "be true to myself," a change the gravitas in his voice tells you is going to be challenging. In short, Rawls makes every moment count in songs by turns revelatory, reflective and revealing (one tune, his emotional cover of his former boss O.V. Wright's blunt confessional, "Born All Over," is actually all three). Life lessons are here for the taking. **David McGee**

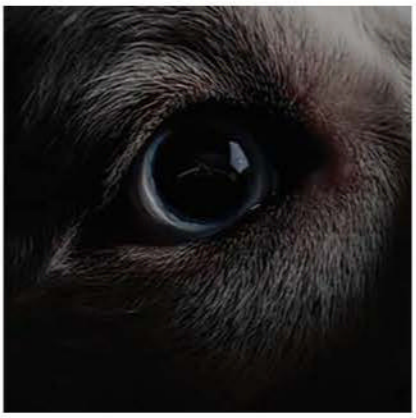
Further Listening: Joe Louis Walker: *Weight of The World*; Otis Clay & Joe Louis Walker: *Soul Brothers*

MUSIC ●●●●○ SONICS ●●●●○

Wilco: *Cousin.* dBpm.

Between writing recent books and releasing a string of quality records, Jeff Tweedy is as prolific in his fifties as he ever was. Witness Wilco's new release of *Cousin,* their first album since 2004's *A Ghost is Born* to feature an outside producer rather than the band's customary self-production, and it's a late-career gem. If *Cruel Country*, last year's double album, grounded their music in the familiar template of alt-country roots, *Cousin* leans more toward Wilco's experimental pop side. The opener, "Infinite Surprise," rumbles with feedback crackling like static over guitar and percussive ticking as Tweedy's warm voice spills tender secrets. "Ten Dead" is another mournful tale, but this one elegizes one more American mass shooting. The first single, "Evicted," scores its melodic hooks with slide guitar and mid-tempo heartbreak. Cate Le Bon, a Welsh singer-songwriter who befriended the band, produces this record with confident restraint and an ear for unusual sonic textures. She finds a way to showcase the clear ache and vulnerability in Tweedy's voice. Wilco records have always charted the vagaries of Tweedy's emotional state, and his intuitive songwriting mines these moody depths in song. In such a precarious era, *Cousin* offers deep emotional resonance to its listeners. **Greg Gaston**

Further Listening: Dawes: *Misadventures of Doomscroller*; The Rolling Stones: *Hackney Diamonds*

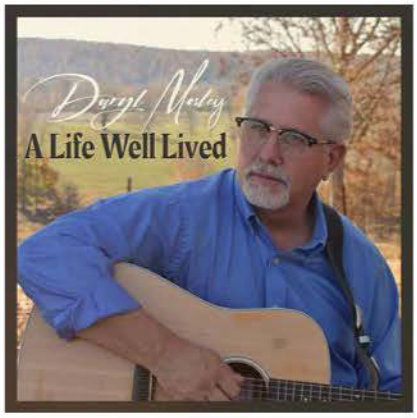


MUSIC ●●●●○ SONICS ●●●●○

Roger Waters: *Dark Side Redux.* SGB.

It's not every day we get to hear a reimagined classic rock epic—but on the other hand, it's not every day we want to. This underscores the predicament Roger Waters faces with his enigmatic *Redux* revision of *Dark Side of the Moon*. The infamously contentious Waters has never lacked ego—as well as the courage to follow his own vision—and *Dark Side Redux* reaffirms that. With the gentle, opening crawl through "Speak to Me" and "Breathe," Waters' brooding baritone sets the tone for the album while delivering spoken word lyrics from "Free Four," an early Floyd tune about the futility inherent in life, and these spoken word tone poems take up a lot of room on the record. The original's melodic psychedelia gets subsumed by hushed, world-weary songs that inhabit a blasted, atmospheric landscape. Some of the arrangements are almost unrecognizable and thus weakened, like the deconstructed "Money" and "Great Gig in the Sky," but "Time" and "Us and Them" retain their anthemic qualities. Though not a necessary remake, *Redux* provides a compelling update to these seminal songs written by a 29-year-old Waters—now revised by the same 80-year-old man. **GG**

Further Listening: Taylor Swift: *1989 (Taylor's Version)*; Pink Floyd: *The Final Cut*; The Flaming Lips: *American Head*; Brian Wilson: *Brian Wilson Presents Smile*



MUSIC ●●●●○ SONICS ●●●●○

Daryl Mosley: *A Life Well Lived.* Pinecastle.

In 2021's *Small Town Dreamer* and his new *A Life Well Lived*, folk-country singer-songwriter Daryl Mosley fashions a self-contained world animated by the loves and losses, hopes and dreams of folks whose personal dramas play out well off the beaten path. In essence Mosley's offering a musical version of Thornton Wilder's *Our Town*, creating his own Grover's Corner in which his warm tenor readings are the Stage Manager's voice. The song titles say a lot: "A Life Well Lived," "Back When We Were Boys," "Mayberry State of Mind," "Working Man's Prayer," "The Bible in the Drawer," "Nobody but Her," *et al.* As a complementary voice, the lively but engagingly mellow backwoods soundscape, energized periodically by virtuosic fiddle, mandolin, and guitar solos, always serves the narratives first. Then there's the *dramatis personae*: the grandfather of the title song who believes "The bigger man's the one who turned the other cheek"; the town sage depicted in "Walking Man," a Civil Rights-era veteran who "Would walk demanding that all men be treated equally"; and, in "The Bible in the Drawer," the Gideon Bible itself telling of how it altered wayward lives for the better. Would that Mosley's messages reach every town, every heart. **DM**

Further Listening: Dan Tyminski: *God Fearing Heathen*; Daryl Mosley: *Small Town Dreamer*

MUSIC ●●●●◐ SONICS ●●●●○

The Mountain Goats: *Jenny from Thebes.* Merge.

File under: Literate pop (fans of Andrew Bird, Bon Iver, and Sufjan Stevens take note). The prolific Mountain Goats chieftain John Darnielle is a singer, songwriter, and novelist who has summoned a minor character from the lo-fi 2002 concept album *All Hail West Texas* to star in this polished rock opera. Darnielle is joined by bassist Peter Hughes, multi-instrumentalist Matt Douglas, and drummer Jon Wurster. Guests include guitarist Alicia Bognanno of Bully and Kathy Valentine of the Go-Go's on backing vocals. The results are unabashedly theatrical and disarmingly catchy. The good-hearted protagonist, Jenny, lives a marginal existence, sheltering broken souls whose circumstances inform these songs. The lyrics are peppered with references of life hard-lived on the road, in "corner clinics" and Walmart parking lots. Despair, as heard on "From the Nebraska Plant," is found in the details: "I recall the curb, waiting for the bus/Flaky yellow paint. What's become of us?" The transient nature of life permeates these songs ("Fresh Tattoo," "Going to Dallas"). But redemption emerges on "Jenny III," a tale of hard-fought salvation replete with string section. "Great Pirates" shows Darnielle isn't afraid to ponder the Big Questions about free will and destiny. Meet Jenny from Thebes: survivor. **GC**

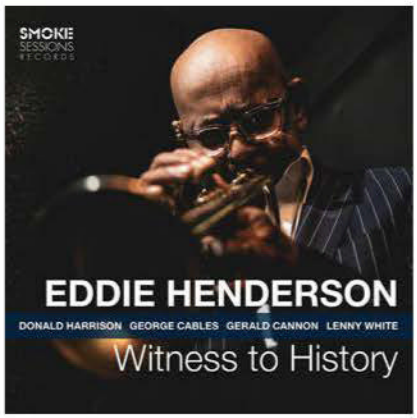
Further Listening: Sufjan Stevens: *Greetings from Michigan, The Great Lake State*

MUSIC SONICS

Rufus Reid & Caelan Cardello: *Rufus Reid Presents Caelan Cardello.* Liam (LP).

A passion project produced by TAS Editor-at-Large Michael Fremer, *Rufus Reid Presents Caelan Cardello* signals the arrival of a serious jazz talent. Recorded live, the remarkable music made on a January afternoon in 2023 was the result of two musicians who'd never before worked together. A 79-year-old veteran bassist, Rufus Reid has played with a veritable Who's Who of jazz over his long career. The "new cat" pianist he was eager to introduce, 22-year-old Caelan Cardello, remains virtually unknown, but not for long. If you think of Bill Evans' finest trio work, you'll get a clear picture of the multi-pronged talent Cardello possesses. He's got technical chops aplenty, combined with a fluidity, lyrical touch, and innate poetic sensibility. The six tracks herein hold a kind of ethereal magic that also reveals an extraordinary level of communication between these two players. Recorded to 96/24 files by Duke Marcos, with mixing suggestions by Joe Harley, and mastering by Bob Ludwig, the sound of the vinyl has a marvelous you-are-there presence and immediacy: it's utterly natural, tonally rich, warmly balanced, creamy even, but still precisely articulated. It will be a pleasure to watch (and hear) where Cardello goes from here. **Wayne Garcia**

Further Listening: Bill Evans & Jim Hall: *Undercurrent*; Rufus Reid: *Terrestrial Dance*



MUSIC SONICS

Eddie Henderson: *Witness to History.* Smoke Sessions.

On Eddie Henderson's fourth Smoke Sessions release, the veteran trumpeter is joined by two of his all-star bandmates from the Cookers (alto saxophonist Donald Harrison and pianist George Cables), plus bassist Gerald Cannon and drummer Lenny White, for eight selections of celebration, inspiration, and dedication. This recording celebrates Henderson's 50th anniversary of recording as a leader. The opener, Henderson's "Scorpio Rising," is a remake of the funky "Scorpio-Libra," from *Realization*, his debut as a leader. Cables is on electric piano and drummer Mike Clark is added to provide extra drum flavor. Henderson's wife Natsuko composed "I'm Going to Miss You My Darling," a lovely ballad inspired by their feelings when Henderson is on the road; I wonder if there are lyrics to go with the music. Other highlights include the standard "Sweet and Lovely," which is usually played as a ballad but is given an Elvin-ish three-four groove here; Eddie Harris' "Freedom Jazz Dance," inspired by Miles Davis' version but given a funky New Orleans-like groove; and Henderson's tribute to Lee Morgan, the hard-swinging "Totem Pole" from Morgan's classic release *The Sidewinder*. Having recently turned 83, Henderson sounds like he still has more history to witness. Let's hope so. **Greg Turner**

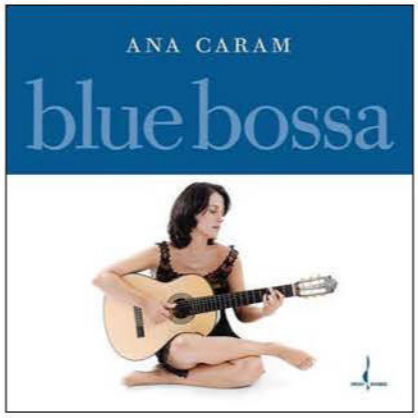
Further Listening: Keigo Hirakawa: *Pixel*; Art Pepper/George Cables: *Goin' Home*

MUSIC SONICS

Johnny Griffin: *Live at Ronnie Scott's, 1964.* Gearbox (3-sided 2-LP set).

This previously unreleased set catches Johnny Griffin at his blistering best, at the height of his powers. The diminutive tenor saxophonist had hit the national stage in the mid-50s, and by 1963 had recorded 15 terrific solo records and another dozen in the baddest of all the two-tenor led bands, alongside Eddie "Lockjaw" Davis, as well as appearing on important records by Art Blakey and Thelonious Monk. He relocated to Europe in '63, and while most American fans tend to focus on what he had done to that point, Griffin was still only 35, and had another 45 years of recording ahead of him, ending with another live set from Ronnie Scott's shortly before his death in 2008. He is in fantastic form on the three extended tunes heard here, and one of these, "The Girl Next Door," doesn't appear on any of his other records. But the showstopper is a ferocious version of "Indiana" that demonstrates how creatively Griffin could negotiate breakneck tempos. Gearbox has done a beautiful production job with this, but we must note that the audio isn't perfect; there's some hum, and the balance has pianist Stan Tracey too low in the mix. Still, a must for Johnny Griffin fans. **Duck Baker**

Further Listening: Johnny Griffin: *Johnny Griffin Sextet*; Johnny Griffin & Eddie "Lockjaw" Davis Quintet: *Tough Tenor Favorites*



MUSIC ●●●●● SONICS ●●●●●

Ana Caram: *Blue Bossa.* Chesky/Evosound (LP).

Recorded at St. Peter's Church in New York City in 2001, Ana Caram's *Blue Bossa* was originally released later that year in CD and SACD formats on the Chesky label. Recently Chesky Records licensed the music to this and several other titles to Evosound for a limited release on 180-gram vinyl. The natural and unadorned approach to this recording is fully realized on this exceptional pressing, with all the subtle microdynamics of each instrument and the air around them fully balancing Ana's voice, thus inviting the listener into their recorded space. This is a sophisticated album of bossa nova music beautifully performed in an understated and nuanced manner. Antonio Carlos Jobim's "Só Tinha de Ser Com Você" and "Telefone" by Roberto Menescal offer some buoyancy and playful interaction while quiet tenderness comes through in songs like "Inútil Paisagem." "Fly Me to The Moon" is done as a bossa and sung in Portuguese. This is not a flashy collection of songs with extensive musical improvisation; however, the thoughtful arranging and expert musicianship shimmer throughout the album and each repeated listening reveals more layers of beauty. Ana's variations in phrasing and shaping of each song are elegant and masterful. **Karin Plato**

Further Listening: Ana Caram: *The Other Side of Jobim*; Elis Regina & Antonio Carlos Jobim: *Elis & Tom*

MUSIC ●●●●● SONICS ●●●●●

Susan Alcorn Septeto del Sur: *Canto.* Relative Pitch.

We don't hear many women playing pedal steel guitar, and we certainly don't hear anyone playing the instrument the way Susan Alcorn does. Others experiment with its sonic possibilities, venturing into expanses beyond western swing and country, but Alcorn's unique investigations feel as rooted in her heart as they are processed in her genre-resistant brain. On *Canto*, she puts her first-hand impressions of Chile—the stories she heard from political activists, returnees from exile, and concentration camp survivors, and the sounds, especially socially engaged chants and *nueva cancion*—into her own music. To that end, she composed the opening "Suite Para Todos," the three-part *Canto* centerpiece suite, and an ode to the legendary singer Mercedes Sosa, and capped the set with an interpretation of a classic by martyred folksinger Victor Jara (murdered by the Chilean military after the 1973 coup). In her new septet, Alcorn sets her mercurial steel in surroundings of guitars (acoustic, electric, *cuatro*, *charango*), flutes, panpipes, bass, drums, violin, and vocals. Traditional, original, romantic, and melancholic melodies, passages of thorny, abstract improvisation, and brief forays into hard rock touch the soul, stir the spirit, and evoke conflict and longing in this emotionally deep, avant-garde South American-folk-jazz. **Derk Richardson**

Further Listening: Maggie Björklund: *Coming Home*

MUSIC ●●●●○ SONICS ●●●●○

James Brandon Lewis/Red Lily Quintet: *For Mahalia, With Love.* Tao Forms.

The tenor titan's second album with his Red Lily Quintet is a tribute to Gospel Queen Mahalia Jackson, whose regal presence and magnificent voice galvanized a generation. A follow-up to Lewis' acclaimed *Jesup Wagon*, a stirring celebration of George Washington Carver, *For Mahalia, With Love* is more personal for Lewis, who was introduced to Jackson's singing by his grandmother. Joined by melodic wingman Kirk Knuffke on cornet, cellist Chris Hoffman (a longtime member of Henry Threadgill's Zooid), and the pulsating rhythm tandem of bassist William Parker and drummer Chad Taylor, Lewis wails with sanctified intensity on gospel staples like "Go Down Moses," "Wade in the Water," and "Precious Lord." His rubato "Sparrow" uses the spiritual "His Eye Is on the Sparrow" as a springboard into some extended improvisations while a kinetic 6/8 spin on "Wade in the Water" leads to more raucous terrain. Hoffman and Lewis have some edgy exchanges on the wide-open middle section of "Calvary." Lewis and Knuffke adhere to the familiar melody of "Go Down Moses," paced by Parker's deep-toned walking bass, before opening things up to free-boppish abandon. And their take on "Deep River" is as riveting as Ayler's free jazz anthem, "Ghosts." **Bill Milkowski**

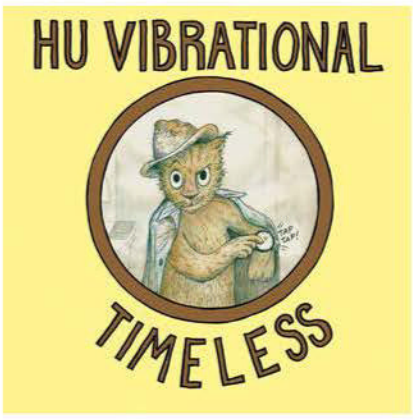
Furthering Listening: James Brandon Lewis: *Divine Travels*

MUSIC ●●●●○ SONICS ●●●●○

Hedvig Mollestad: *Weejuns.* Rune Grammofon.

Beginning with her first trio album, 2011's *Shoot!*, Norwegian guitarist Hedvig Mollestad quickly drew attention as the leader of a fiery progressive rock instrumental trio. During the last five years her musical vistas have broadened considerably, with highlights including adventurous and sometimes intricately arranged collaborations with the Trondheim Jazz Orchestra. Her latest album, *Weejuns*, again finds Mollestad leading a trio, except this guitar/keyboards/drums three-piece evokes early Soft Machine and *Bitches Brew*-era Miles. The lengthy and (I'm assuming) highly improvised live performances avoid tedium due to the deep level of communication between Mollestad, Ståle Storløkken (keys), and Ole Mofjell (drummer), who combine to create a consistent sense of drama. During the quiet passages there's an undercurrent of tension that continues to simmer. One senses that, sooner or later, all hell will break loose, and when the eruption finally occurs Mollestad launches into solos so packed with power and passion that I'm reminded why she belongs among the upper echelon of guitarists. At times I hear shades of David Torn, Terje Rypdal, and John McLaughlin in her music, but she clearly has her own voice. If those artists appeal to you and you haven't heard Mollestad, you should check out *Weejuns*. **Jeff Wilson**

Further Listening: David Torn: *Cloud About Mercury*

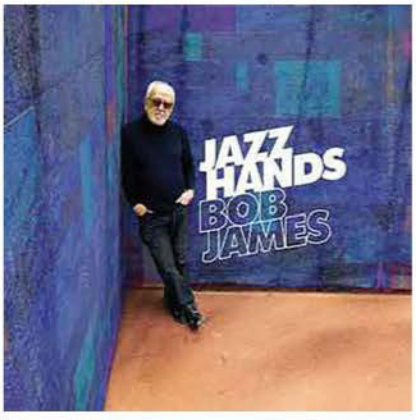


MUSIC ●●●●● SONICS ●●●●●

Adam Rudolph Hu Vibrational: *Timeless Boonghee Music 5.* Meta.

A multifaceted percussionist who came to prominence in multicultural settings alongside Don Cherry, Yusef Lateef, Pharoah Sanders, Jon Hassell, and others, Adam Rudolph has been recording as a leader since 1992, and with his Go: Organic Orchestra and Hu Vibrational projects since 2002. Rudolph is a master of time and space, which he makes pulsate hypnotically through canny orchestrations of acoustic and electric instruments and elegant electronic processing. For Hu Virational's fifth and largely DIY iteration, he plays a score of instruments (drums, keyboards, flutes, reeds, zither, thumb pianos, and various percussion from around the globe). Eight other musicians contribute here and there (on bass, tabla, sitar, and more); Norwegian guitarist Eivind Aarset and Chicago-based drummer Hamid Drake are the most prominent. Discerning who's doing what is dizzying and ultimately unnecessary. The point is to let go and take the journeys, nine in all, with each performance the aural equivalent of a psychedelic light show, or a lava lamp on overdrive. *Timeless*, released on vinyl and digitally, is jazz elasticized with post-rock and electronica sensibilities similar to those of Norway's Jaga Jazzist and Chicago's Tortoise, made more ornate by Rudolph's world-music/head-trip colorations. **DR**

Further Listening: Mickey Hart/Zakir Hussain: *Global Drum Project*



MUSIC ●●●●○ SONICS ●●●●●

Bob James: *Jazz Hands.* Evosound.

Do not expect anything really "jazzy" on the new Bob James album. *Jazz Hands* is nothing at all like 1996's *Straight Up*, the veteran pianist's strictly acoustic trio date with bassist Christian McBride and drummer Brian Blade, or 1963's *Bold Conceptions*, his first album as a leader at age 22. Instead, this eclectic offering is an updating of the smooth jazz that James helped define in the early 70s on his Tappan Zee imprint. Now 84, the two-time Grammy winner courts a pop/hip-hop muse on the R&B-flavored title track (featuring soulful singer CeeLo Green) and the irresistible dance track, "That Bop" (with OG turntablist DJ Jazzy Jeff). With his current touring trio of bassist Michael Palazzolo and drummer James Adkins, James delivers his signature tasty piano licks on a bluesy "The Otherside," Palazzolo's introspective "The Alchemist," and the energized, Latin-tinged "Mambalacious." Smooth jazz legend Dave Koz guests on the haunting "Into My Dream" while rising star Ukrainian saxophonist Andrey Chmut blows with urgency on "The Secret Drawer." The ambitious 10-minute "Sea Goddess," the only live performance here, features the leader's most potent piano performance, along with stellar solos from tenor saxophonist Tom Braxton and guitarist Dwight Sills. **BM**

Further Listening: Bob James Trio: *Espresso*; Bob James & David Sanborn: *Quartette Humaine*

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MUSIC ●●●●○ SONICS ●●●●●

Mendelssohn: Symphony No. 4 (1833 & 1834 versions). Le Concert des Nations, Jordi Savall, conductor. Alia Vox.

Composers' second thoughts are usually better than their first. Take Beethoven, who was a master of second thoughts… and third…and fourth, and how that tendency played out in works like the Fifth Symphony and the opera *Fidelio*. Or Sibelius, whose painstaking revision of his Violin Concerto proved vastly superior to the original. Mendelssohn, too—fastidious reviser of his own first efforts—usually did better the second time. He felt the original version of his *Hebrides* Overture smacked "more of counterpoint than of whale oil, seagulls, and salted cod," so he tightened the line of action and produced the brilliant work we know today. But when, soon after writing it, he tried to improve his *Italian* Symphony, the piece went south on him, so to speak. Mendelssohn's effort is documented in this new recording of both versions of the work. Some will like what he did, but I find his tinkering with the notes and scoring of the original a misfire—just as I did when John Eliot Gardiner recorded the two versions with the Vienna Philharmonic 25 years ago. At least these new accounts, played in "period" style and recorded in 2022, sound fresh and earnest, as we expect from Savall, and come with abundant commentary. **Ted Libbey**

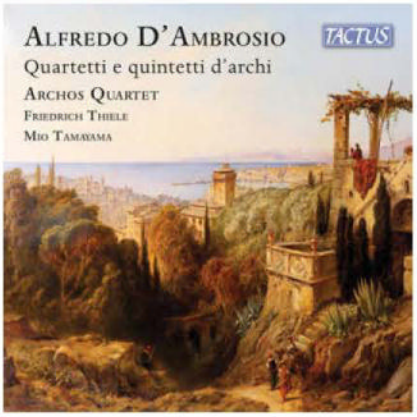
Further Listening: Mendelssohn: Symphonies Nos. 4 (two versions) and 5 (VPO, Gardiner/DG)

MUSIC ●●●●◐ SONICS ●●●●●

Schumann: *Piano Quartet & Quintet.* Faust, Schreiber, Tamestit, Queyras, Melnikov. Harmonia Mundi.

Both of these works are examples of Schumann at his considerable best, as opposed to his fitfully complicated worst. Both date from 1842, the "year" of chamber music, in which Schumann took on a genre he had barely touched before, and did some amazing things—particularly with the piano quintet, the first of a new species joining piano with the standard string quartet, whose progeny would include works by Brahms, Dvorák, Franck, and many others. The quintet's dedicatee, Clara Schumann, was to have performed at the work's private unveiling in Leipzig in 1842, but was unwell at the time, so Felix Mendelssohn, invited to the event, gamely stepped in and sight-read the piano part. Clara played at the public premiere a month later in the Gewandhaus. Here, a top-notch group of string players led by Isabelle Faust give beautiful accounts of both works, while Alexander Melnikov's use of an 1851 Pleyel pianoforte allows the ensemble to frame the music in the sound of the period in which it was written—to play with sparing vibrato, limpid bowing, and more transparent textures than we are used to. Excellent sound. **TL**

Further Listening: Schumann: Opp. 44 & 47 (Bettelheim, Rhodes, Beaux Arts Trio/ Philips)

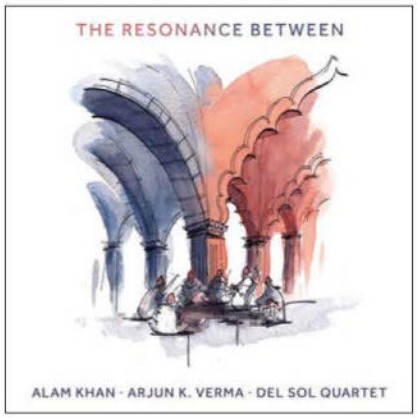


MUSIC ●●●●○ SONICS ●●●●○

D'Ambrosio: *Quartetti e quintetti d'archi.* Archos Quartet. Tactus.

Never heard of Alfredo D'Ambrosio? You are in good company. He was born in Naples in 1871, and eventually became an acclaimed violinist and composer. D'Ambrosio is a textbook example of an artist who flourished in his own time, but whose reputation barely survived after his death (he died in Paris in 1914). His sweet, colorful music was once championed by such legendary violinists as Jascha Heifetz and Mischa Elman, but those very qualities consigned his music to the sidelines by the latter half of the 20th century, when modernism, and atonality specifically, ruled the day. This collection of six works for String Quartet and String Quintet displays the work of a fine craftsman with a distinctive gift for melodic invention. Imagine if Puccini centered his career on chamber music instead of opera and you will have some idea of how this music sounds. In the music for quintet the standard string quartet is augmented by a second cello in an enchanting four-movement suite, and four brief works feature the addition of a bass, in both cases adding a rich warmth to the overall tone of the music. Performances by the youthful, multi-national Archos Quartet and friends are superb. **Peter Burwasser**

Further Listening: Strauss, Verdi, Puccini: String Quartets (Enso Quartet/Naxos)



MUSIC ●●●●○ SONICS ●●●●○

The Resonance Between. **Alam Khan, Arjun K. Verma, Del Sol Quartet, Jack Perla. Six Degrees/AMMP.**

Hindustani classical music has enjoyed a fruitful relationship with audiophile recording almost from its introduction in the West. It has also stimulated some of the first experiments in "fusion" music.

In 1955, celebrated violinist Yehudi Menuhin invited sitarist Ravi Shankar to perform at MOMA. Shankar had to decline, but his brother-in-law, sarodiya Ali Akbar Khan (son and fellow disciple of sarod legend Allauddin Khan) played instead. The next year, Shankar recorded *Three Classical Ragas* in Abbey Road studios—only the second Indian classical program to be recorded on LP. Khan, of course had made the first LP the previous year while in New York.

In 1965, Khan began teaching in America and in 1967 opened the Ali Akbar Khan College of Music in California. Meanwhile Shankar had developed a jazz following and recorded several albums for Richard Bock of World Pacific/Pacific Jazz. Better known today are his friendship with and influence on Beatle George Harrison, culminating in the 1971 Concert for Bangladesh, the first major rock concert for charity.

In June 1966, Menuhin and Shankar performed together for the first time at the Bath Festival. A few days later at Abbey Road they recorded *West Meets East*, a critical and sonic success that spent six months atop the classical charts and won a chamber music Grammy—the first for any Asian music.

As Hindustani music began to find a Western audience, the Connoisseur Society commissioned David B. Jones to record 11 albums between 1966 and 1974 featuring Ali Akbar Khan. Made using four Sony C37 microphones, an Ampex recorder running half-inch tape at 30 ips, and custom tube electronics, these sessions remain the benchmark for lifelike balance and presence in this repertoire. They were reissued on CD as the Signature Series by AMMP, the label associated with the Khan College, with the involvement of high-end designer Mark Levinson.

The Resonance Between carries on several traditions. Sarodiya Alam Khan and sitarist Arjun K. Verna are both students of Ali Akbar Khan; Alam is his son. Their collaboration with tablaist Nilan Chaudhuri, the adventurous Del Sol Quartet, and composer Jack Perla continues the exploration of melding Western and Hindustani elements. And it was released with an "Audiophile Audio Production" press release.

Begun before the COVID pandemic, the project was recorded using innovative synchronized streaming during lockdown. Harmony has no function in the Indian classical tradition, so all the musicians mostly play simultaneous melodic lines. The compositions had to be notated so the quartet could read them; a custom intonation guide was also required. To make the quartet audible in the mix, complex EQ was used to tame overtones on the Indian instruments, along with a multiband transient processor to balance their perceived placement. The results are variable; while the Western strings are audible, the expressiveness of the sitar especially suffers. The are many moments of excitement and reflectiveness along with occasional modernist touches, but the album's greatest strength may be the joyful virtuosity of its participants and its spirit of shared humanity. **Randall Couch**

Further Listening: ***The Menuhin Century: West Meets East*** **(Yehudi Menuhin, Ravi Shankar, Hephzibah Menuhin/Warner Classics)**

MUSIC ●●●●● SONICS ●●●●●

Music for 18 Musicians. **Steve Reich. Colin Currie Group. Colin Currie Records.**

Steve Reich's *Music for 18 Musicians* was an immediate and powerful success at its premiere in 1976. If Terry Riley's 1964 classic *In C* can be regarded as the origin of the American minimalism movement, *Music for 18 Musicians* marks the emergence of minimalism from out of the fringes and into the mainstream. This glistening new recording reveals the work with no loss of power compared to the venerated premiere recording on ECM, in a performance supervised by the composer. The Colin Currie Group, led by the eponymous Scottish percussionist, also has strong ties to the composer. The score is entirely acoustic (including four vocalists), but is constructed with an obsessive precision that, at first, creates a machine-like aura. But as the music proceeds, the mechanical veneer is replaced by very human characteristics, such as breathing and heartbeat as expressed in the music's rhythms, especially in this rendering. The work is, without a doubt, a modern masterpiece, and any serious music lover, of any inclination, should experience it (David Bowie placed the ECM release on his list of 25 favorite albums). The SACD sound is positively voluptuous. **PB**

Further Listening: Reich: ***Music for 18 Musicians*** **(ECM)**

Besides the worldwide challenges we all must face, the high-end industry needs to attract young people.

Q&A

Manfred Diestetich

Audio Physic Loudspeakers

Neil Gader

How and when did your interest in high-end audio begin?

I was born and grew up in the city of Kassel. We were living not far away from the AEG factory and its consumer electronic division, Telefunken. Telefunken produced everything from simple radios up to—for that time—high-priced hi-fi components. My first hi-fi system consisted of a receiver from Telefunken, a Dual turntable, and some DIY speakers. For me, that was the start of high end.

What components made up your first "true" high-end system?

That is not so easy to say, as I changed my system often. I spent a lot of money for cartridges, new drivers for my speakers, various amplifiers, and so on. One system stayed over a longer period. It was built on Rotel amplification—tuned with special operational amplifiers, capacitors, and other tweaks, and a Rotel turntable with various mc cartridges. The speaker was a transmission-line design with drivers from Dynaudio, Eton, and a Magnetostatic tweeter.

When did audio develop from a hobby to a career?

Coming back to Germany after my first job as a civil engineer in 1989, I got a call from a supplier of crossovers. He informed me that IQ, a relatively young but quite successful speaker company located in Essen, was looking for a designer. I met the owner of the company and was engaged directly. At that time my first patent—the inductive coupling of woofers—was granted, and I created a complete range of speakers with that principle. Our flagship model MEDEΩS is the first Audio Physic speaker using inductive coupling.

Was there a particular loudspeaker or speaker designer that inspired you along the way?

The original Apogee Scintilla and later the TAD Reference One convinced me with their clarity and resolution. Vance Dickason and his *Loudspeaker Design Cookbook* provided me with all the fundamental knowledge about speaker design.

How would you explain to someone what "high-end" audio is?

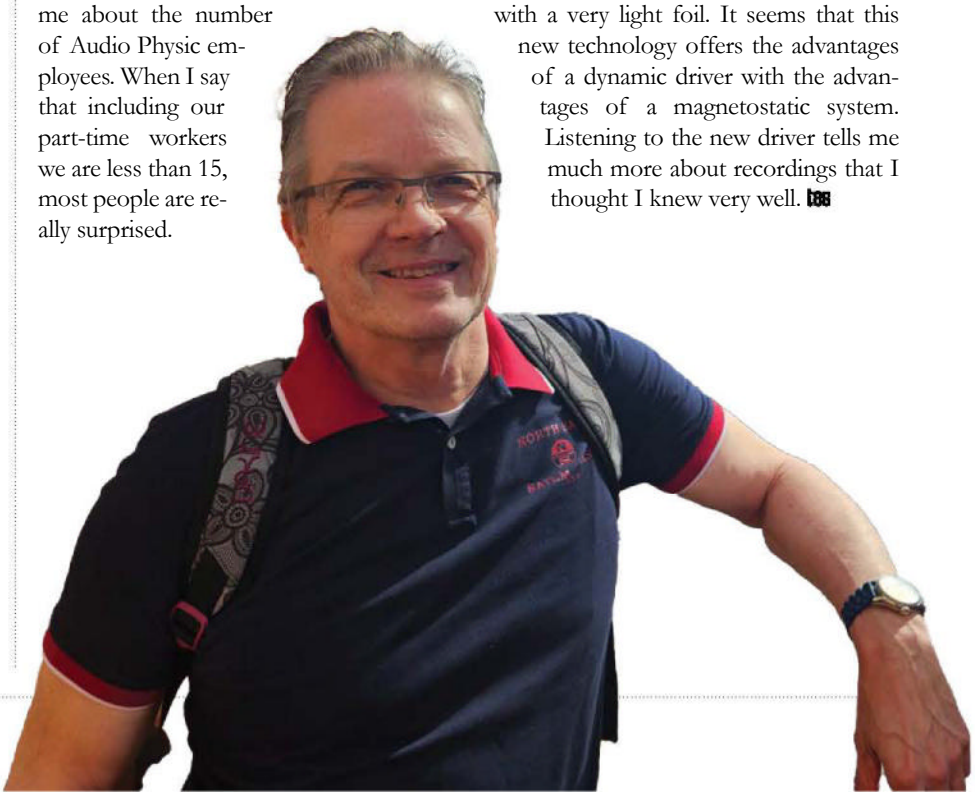
If you listen to your favorite music on a good system, and you hear and probably even feel it in a new and much more engaging way, you're getting the idea of "high-end" audio. And this is regardless of the price tag.

How would you describe the Audio Physic philosophy or mission?

There should be nothing between the music and you. In a good system, the speakers disappear, and you forget all technical aspects completely.

What interesting fact or aspect about Audio Physic might surprise audiophiles?

Customers quite often ask me about the number of Audio Physic employees. When I say that including our part-time workers we are less than 15, most people are really surprised.



What is the last piece of music you listen to before you consider a new loudspeaker ready for production?

There is not one last piece of music for me. I always play several tracks with different electronics before I release a new speaker into production. A new part or a change in the crossover might lead in a wrong direction. It might improve the performance of a certain piece of music but spoil most of the other pieces.

What are the greatest challenges confronting the high-end industry in the next few years?

Besides the worldwide challenges we all must face, the high-end industry needs to attract young people. Not only as consumers but as designers, salespeople, reviewers. Over the years, many high-end shows have turned into veteran shows, especially during the trade days.

Outside of audio, what do you do for fun?

I like to play tennis and enjoy jogging. Visiting nice cities, wine areas, and winemakers is another hobby.

What inspires you about your work?

For quite a while, I've been working on a new generation of drivers combining a 3D-printed polymer frame covered with a very light foil. It seems that this new technology offers the advantages of a dynamic driver with the advantages of a magnetostatic system. Listening to the new driver tells me much more about recordings that I thought I knew very well.

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